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**THE MICHIGAN FARMER.**

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## On Deepening the Soil.

On the eleventh of September, the editor of this journal addressed the Northern Lenawee Agricultural Society, which held its first annual fair on that day at the very flourishing village of Tecumseh. The society is composed of the four towns of Franklin, Raisin, Ridgeway, and Tecumseh. The introductory part of the address was composed principally of a review of the present state of agriculture in that section of Lenawee county, as shown by collating the returns given by the late State census. From this it appeared that the produce of wheat on one of the best producing soils in the state, during a season of unusually high average production, was not quite seventeen bushels per acre; that the average produce of wool from each sheep in this district was but two pounds and four fifths, and that the dairy produce was remarkably low, the average production of the milk cattle being but at the rate of four cents a day, out of which had to be paid all the cost of keep, winter and summer, and also the expense of the manufacture of the productions of the dairy. It was shown that the whole average production of pasture land was but $6.27 per acre. And this rate, be it recollected, was from a distict which for richness of soil, and for comparative ease with which it can be worked, is not surpassed by any section of Michigan. One of the causes assumed as the reason for this light average production was a want of depth in plowing, and also the total neglect of a rotation of crops. In reference to these two important subjects, the address contained the following suggestions which are believed to agree with the practical observations of many of the best farmers in this and in other states.

To this we may add, that in the establishment of such a society as that of Northern Lenawee, it was thought useful to point out the position in which the agriculture of the locality was at the commencement of this institution, and this could only be done by reference to facts and figures which are as authentic as can be had. The statistics of the State census

are furnished by the the inhabitants themselves, and ought to be exact and reliable,and we think they are generally a safe basis to guide us as to the productions of the state, or any section of it. In this case they certainly furnished us with results which we did not expect, and which would have been more satisfactory to us, had they been more favorable to the community we addressed.

One particular cause why the soil deteriorates also may be found in the fact that no attempt is made from year to year to deepen it, by bringing fresh earth to the surface from the subsoil. It is calculated that a soil ten inches in depth, weighs about 1000 tons to the acre. How many of the fields around us are cultivated to a greater depth than 5 inches? And yet from this 500 tons of soil, after cropping it from season to season with the most exhausting of crops, it is still expected that it will yield plentifully; and when it is found that the crops are far from being as remunerating as they ought to do, the loss instead of being ascribed to the true cause—lack of skill or enterprise on the part of the cultivator—is imputed to the weather, the seed, or some other equally innocent scapegoat. In a soil like yours, every inch of depth you add to it, is the same almost as giving each acre a coating of 100 tons of fresh earth. Besides this you increase its power of absorbing moisture in an equal degree. For Sir H. Davy found that a good loam soil perfectly dry, will absorb from the atmosphere from 16 to 18 pounds of moisture for every 1000 pounds, and in a single hour. Another property of the soil, which is increased to an unlimited extent by perfect tillage, is its power to absorb and retain the very elements of fertility which are most wanted by the wheat plant. So great is the power in some soils, that by the mere manipulation or forking over of the earth, wheat is grown steadily and with increased production from year to year, without manure of any kind being added to the land,except that which the earth itself by its strong absorptive power extracts from the atmosphere. For while the earth is the mine which furnishes inorganic elements, the researches of experimentalists show that the air supplies in a large degree a great part of the elements which serve to form the organic or most valuable portion of the vegetable kingdom, and especially is this the case with reference to the plants which affords food to man and the domesticated animals.

You may ask, how this defective management is to be remedied? How can a large crop be produced? You may say you are doing the best you can now. That your average production is as high as the average for the State of Michigan.

In beginning a system of cropping, or laying down a rotation of crops for a district such as this, we should commence with the breaking up of the grass or pasture land for the growth of grain. New fallows or, land from which the forest trees have just been cut off and burnt, do not come within the description. The old pasture, or clover field which is broken up to bear a crop of grain the succeeding year, is hardly ever plowed even at this day, an inch deeper than it was when the producer first commenced its cultivation. How many of you have, on an average, plowed your fallows over six inches in depth? I will ventnre to say but very few. For I have examined the plowed fields over a large section of State, and but seldom have found even at our plowing matches, that either team, or plow, or plowman was fitted to go beyond six or seven inches. With the ordinary implements in use, it is not possible to go much deeper. A depth of 6 inches with a width of twelve to thirteen inches seems to be the general rule. Now suppose that following the regular plow, you let another team come behind it and throw upon the surface but two inches of the unbroken soil, which lies beneath, and which as yet has been untouched by the hand of man or by any of the implements, the fruits of his handiwork—which has lain in darkness since the creation, and never yet has had the breath of life infused through it with the vivifying power which would make it yield up its long buried wealth—would you not be adding one fourth to the extent of the field, and this one fourth could only cost the amount of a single days plowing for each acre. Is not such a system of adding to the extent of your farms worthy of a trial? Especially as it would repay you in every crop of the rotation which follow.

Turn it over in your minds, estimate its cost, calculate the prospect of a return for the investment of the few days labor it would need, and I have little doubt but that you will conclude it is worthy of a trial, especially upon land such as this of yours, which is so fitted to grow wheat of the best quality. On many of the stony clay lands at the east, before growing a full crop of wheat, the farmers are now expending large sums by investing them in tile drains. For this investment, of course, they find they are repaid. All their investments are made to extend the soil by adding to its depth. Here not only are you blessed with a rich and fertile soil, but the subsoil itself is not only rich, but it finds a natural drainage, which saves you all expenditure for such a purpose All that you have to do, therefore, to add to the capacity of your farms, is to enlarge the extent from which your crops draw their strength, by adding to the depth of soil, and then carefully economize and apply the enriching material, your cattle yards ought to furnish. Let us look at how this may be done. Suppose that a farm consists of one hundred acres fit for cultivation, would you not consider yourselves well off if from these one hundred acres you could succeed in raising twenty acres of good marketable wheat, averaging twenty-five bushels to the acre each year? This is not an extraordinary crop. Well, the first step in the right direction is to plan fields so that your 100 acres would be divided as equally as the nature of the surface would admit. Say into ten fields each of ten acres. Let them be numbered and set off so as to form two divisions, but at the same time so connected that the rotation in one will combine with the other to add fertility to your whole farm at a gradual rate, and so that you will hardly feel the pressure of pecuniary disability. This rotation for five of the fields might be named thus:

First year wheat to fallow, then corn, with the field ploughed in the fall and the trench plowing then to be done. To this crop apply the manure of your barnyard; next oats, seeded with clover; the clover for spring pasture, with the second growth ploughed in for the wheat crop of the next year, which being well seeded for hay and pasture, must lie in this state for one or two years.

[NOTE.—Since the address was published we have constructed the following table to show how such a rotation would operate. Of course we do not expect any to follow implicitly the system laid down, but we put it forth as a principle of rotation for those light lands, which may serve as a guide to many who have heretofore paid but little attention to the necessity of studying the economy of the rotation of crops.

FIRST SERIES OF CROPS ON FIVE FIELDS.

| YEAR. | FIELD 1. | FIELD 1. | FIELD 3. | FIELD 4. | FIELD 5. |
|---|---|---|---|---|---|
| 1 | Wheat | Fallow | ---- ----- | ---------- | ---------- |
| 2 | Corn or Potatoes* | Wheat | Fallow | ---------- | ---------- |
| 3 | Oats with Clover | Corn and Potatoes* | Wheat | Fallow | ---------- |
| 4 | Clover | Oats with Clover | Corn* | Wheat | Fallow |
| 5 | Wheat, s'd | Clover | Oats s'd | Corn* | Wheat |
| 6 | Hay | Wheat s'd | Clover | Oats s'd | Corn* |
| 7 | Hay or pas | Hay | Wheat s'd | Clover | Oats s'd |
| 8 | Corn* | Hay or pas | Hay | Wheat s'd | Clover |
| 9 | Oats with Clover | Corn* | Hay or pr | Hay | Wheat s'd |
| 10 | Clover | Oats with Clover | Corn* | Hay or pas | Hay |
| 11 | Wheat | Clover | Oats s d | Corn* | Hay or pas |
| 12 | Corn | Wheat | Clover | Oats s'd | Corn* |
| 13 | Oats seed-ed | Corn* Oats seed ed | Wheat orn* | Clover Wheat | Oats s'd Clover |
| 14 | Clover | Clover | Oats s'd | Corn | Wheat |
| 15 | Wheat | | | | |

Where the star (*) is placed, the operation of trench plowing is to be repeated, each time going an inch or two deeper than the previous plowing had reached. With each trench plowing, also, it is intended that manure should be applied. The trench plowing should be performed in the fall, and the manure plowed in with a light harrow in the spring. In many instances potatoes might be substituted for corn, as the judgment or interests of the cultivator would direct. The table for the other series of fields numbered 6, 7, 8, 9, 10, may be constructed in the same manner, but, let No. 6 commence with corn the first year, the land trenched in the fall, and manured in the spring, and let it be followed with oats, clover, wheat, hay for two years, then wheat, corn, oats, &c. The whole continued would give each year for the fifteen years an average of 20 acres with the exception of one year which would have thirty, or for a series of fifteen years there would be grown from the whole hundred acres, six hundred and ten acres of wheat.]

This system of cropping, of course, is not laid down to be implicitly followed, but as showing the general principle of a rotation of crops suitable for your light easily tilled lands. Where such a system is adopted and it is determined to deepen the soil by trench plowing, the corn crop is that which it should precede, being also the crop in the preparation of the land to which manure can be most readily and economically applied. If the trench plowing is resolved upon, it should be done in the fall, that the newly turned up earth may be mellowed by the influence of the atmosphere and the frosts. In the spring, the manure of the barnyard should be plowed into the top soil with a furrow of only three or four inches. I believe that the first crop of corn would amply repay for the extra labor thus expended. Your average corn crop is now twenty-five bushels to the acre. With the system of manipulation which I suggest, and with an ordinary season it would return you at least double that amound, and more probably treble. With corn at forty or fifty cents per bushel would not this pay? In Great Britain the corn crop is unknown, but they have a crop which serves the same purpose, being principally employed to prepare light land for wheat, and to furnish feed for which to increase the growth and to fatten stock for market. I refer to the Swedish turnip crop. Of this crop, with a favorable season, the most skilful growers average from twenty to thirty tons of long measure to the acre. Some have even reached as high as thirty five tons to the acre. Twenty tons of turnips is equal to 741 bushels, thirty tons, to 1,112 bushels per acre. The first amount is equal to the production of ninety bushels of corn, and the latter to the production of 135 bushels per acre. But this production involves an outlay of nearly twenty-five or thirty dollars per acre, which includes the cost of labor, artificial manures, rent, and securing the crop for winter. The cost per acre of raising a good corn crop, when the value of manure is estimated, and the hoeing is performed so that the fall weeds and the corn do not have a chance to race with each other, is about $18 per acre. These comparisons are merely given to show the position in which our principal feeding and fatting crop places us when compared with the somewhat celebrated feeding and fatting crop of Great Britain.

Both crops are the basis of rotations or a series of croppings which could not be carried out without them. Both crops admit of the cultivation which is necessary to afford every opportunity to get the land clean and free from weeds, and thus prepare it for a more valuable money crop. Both crops give the farmer the means of manufacturing a large amount of manure, as they enable him to feed and fatten cattle for market or the dairy, a greater number of cattle or sheep than he could do without them. But the Indian corn crop has the advantage of the turnip in the fact that it is much more easily handled, and is less liable to injury either before or after it is harvested; and that with less labor, there is less risk connected with every stage of its growth. So that in what may be called the great preparatory crop, the American farmer has a decided advantage over his British brethren.

By the rotation above noted it will be seen that in fifteen years there are four crops of wheat taken off the land, while the corn, oats, hay, and pasture would average full crops instead of the half a third rate crops you now take off. Besides in each course of the rotation, as the proper crop came round, you would keep adding to the depth of soil from which your crops would derive their support; and at the end of a rotation instead of having a farm unimproved by what you had taken from it, it would be in a condition to make you still more ample returns than those which it had already poured into your granaries, your corn houses, and your pockets, in the shape of wheat, oats, corn, and the cash received for wool, mutton, beeves and the products of the dairy.

## The Southdown Sheep.

With this article we intended to present a portrait of the Southdown Buck to which was awarded the first prize at the great Paris exhibition of 1855. But we have to defer it to next month, our engraver not being able to get it ready. This buck was the property of the celebrated breeder Jonas Webb, of Babraham in England, a farmer and a gentleman who has made the improvement of this particular variety a study for many years. As there has been recently imported into this state by Mr. J. B. Crippin of Coldwater, at a considerable expense, a pen of South Downs, purchased at the late sale of L. G. Morris and which are directly from the stock of Mr. Webb, a slight sketch of this breed at the present may be appropriate. Besides, we have had recently some inquiries as to the qualities of this breed of sheep, their produce, in wool and in mutton, and their constitutional capacity to withstand the rigors of the climate of our state.

The present south downs are the descendents of an original breed of sheep which from time immemorial have been pastured on the high chalk heaths in the shire of Sussex, a county situated directly south of London, forming a part of the southern seacoast of England. At the foot of these uplands, which grow a short, sweet grass, and are exposed to the winds which blow from the Atlantic, there lies a very fertile and valuable tract of low land. This combination of rich low land with one of the best sheep pastures in the kingdom has permitted those who undertook to improve the breed, to have the advantage of ample winter as will as summer food, and thus to experiment upon their capacity for early maturity.

The improvement of this breed was commenced as long ago as 1780 by Mr. John Ellman, of Glynde, and he pursued the task he had undertaken steadily for fifty years. It is supposed that the race was originally black, but that cultivation and skill in breeding have not only deprived them of horns, but had also changed the color and quality of their wool. When Mr. Ellman first undertook the improvement of these sheep, he described them "as being of small size, and far from possessing a good shape; they were long and thin in the neck, high on the shoulders, low behind, high on the loins, down on the rumps, the tail set on very low, almost perpendicular from the hip bones, sharp on the back, the ribs flat, not bowing, narrow in the forequarters, good in the leg, although having a large bone.. The fleece was light, and the sheep did not arrive at full growth before they were three years old." This was the material, and many of our reeders will recognize the description as answering very well for a good many animals in their own flocks or in those of their neighbors at the present time. In their old condition, the south down wether was considered to have done well, which at two years old would furnish a quarter of mutton weighing 12 to 14 pounds; and when fattened at four or five years of age, the quarter seldom exceeded 18 pounds. Now the southdown wether at 12 or 15 months, furnishes quarters of mutton that range from sixteen to twenty-five pounds per quarter, and at some of the great Smithfield shows, sheep of this breed have been exhibited, the quarters of which weighed from 40 to 50 pounds.

The fleece of the old southdown was equally deficient in weight with the carcase, and seldom averaged over two pounds per head; now the flocks average from four to six pounds, whilst many choice animals far exceed this amount. An experienced sheep breeder gives the following as the leading points of good sheep, with the remark, that all breeders admit that a general rule prevails that a well proportioned animal is the best criterion of a good constitution and aptitude to fatten. "A small head, though an indication of a well bred sheep is also accompanied by want of size; the head should be of medium length, the lips thin, and in other respects resembling the face or countenance of the fallow deer. The under jaw or chops ought to be fine and thin; the ears tolerably wide apart, well covered with wool, and not too thin. The forehead should be well covered with wool, and especially between the ears, as it is a great protection against the fly; the eye full and bright, but not prominent; the eye cap or bone not projecting, that it may form an obstacle in lambing. The neck should be of proportionate length, thin next the head, and enlarging towards the shoulders, and straight on the top, and not what is generally called ewe-necked. The breast should be wide and deep, projecting well forwards between the fore legs. This is considered an essential point with graziers, as the heart gives the sheep a greater degree of weight, and also indicates a good constitution, and disposition to thrive. The shoulders should be on a level with the back, and not too wide above. If the shoulder blades are not very wide on the top, it is generally found that the animal droops behind them. The back should be flat from the shoulders to the setting on of the tail. The ribs should project horizontally from the spine, extending far backward, and the last rib projecting more than the others. The rump should be long and broad, the tail set on high, and nearly on a level with the spine; the hips wide and the space between them and the last rib on either side as narrow as possible, thus preventing the dropping of the belly; the ribs generally presenting a circular form. The legs should be of proportionate length—the hind leg full on the inside at the point called the twist, hock rather turning out. The forelegs should be straight from the breast to the foot, and not what is generally called knock kneed."

Within the past few years numerous trials have been made to test the profitableness of this breed against that of others, which are favorites in the several districts to which they are natives. But whether by themselves or for crossing, these sheep, like the improved short horn cattle work their way, and their blood is now more extensively spread over Great Britain than that of any other single variety.

In a report submitted to the public by the late Phillip Pusey, Esq., a very distinguished agriculturist, it appeared that on the same feed which would keep 100 Cotswolds, (a variety considerably prized for its early maturity, rapid growth and large size,) the proportion for other breeds was, Leicesters 105, Hampshires 115, Southdowns 120, and a cross of the Cotswold and Southdowns, 115. The cross breeds had the advantage of obtaining a higher price per pound for their mutton, it being of a superior quality. Their fleeces were not, however, as heavy as that of the long-wooled Cotswolds and Leicesters. Over the short-wools, the Hampshires and Southdowns, they had the advantage of superior weight in both carcase and wool, so that it turned out that the crossbreeds on the same food gave a return of half a dollar per head more than the pure longwools, while over both varieties of the short wools, there was a profit still larger.

According to some very accurate and well reported experiments of J. B. Lawes, Esq., on the fattening qualities of sheep of different breeds, it is shown that 40 sheep of the pure Southdowns consume each 79 pounds 1 ounce of Sweedish turnips, 5 pounds 14 ounces of clover hay and 6 pounds three ounces of oil cake per week. In return for this the growth of each animal in weight was 2 lbs. 2 oz. per week, so that at the end of the term for which they were put up to get ready for the butcher, the sheep that weighed 88 pounds per head, weighed at the end of the term 141 pounds each. From the whole series of experiments it was found that to produce 100 lbs of increase of live weight, it took 314 pounds 4 ounces of oil cake, 304 pounds 3 ounces of clover hay, and 4,086 pounds of sweedish turnips. If we turn this into equivalents of corn and timothy hay, or of such food as we usually fatten stock on here in Michigan, it would amount to about the following quantities, namely: 1362 pounds of good upland timothy hay, 304 pounds good clover hay and 431 pounds of Indian corn, or as near we can estimate in money value, thus:

| | |
|---|---|
| 13 2 lbs best hay at $10 per ton | $6,81 |
| 304 " clover hay at $6 " | 0,91 |
| 431 " Indian corn at 40 cents per bush | 3.09 |
| Cist of 100 lbs increase of live weight | 10,80 |

These prices it is true are put down at the marketable value of the articles, but as in the economy of the farm, such articles as cornstalks, straw of various kinds, chaff, and other material are worked up into mutton, which could not be brought to market in any other shape, due allowance must be made. Besides, it must be taken into the account that from this material there will remain on hand a large quantity of valuable manure, which if properly used will bring back its value in the wheat or corn crops, to which ever it may be applied.

## A Lenawee Farm.

During our visit to Tecumseh, for the purpose of being present at the fair of the Northern Lenawee Society, we received some warm invitations to visit the homes of several of the farmers of that vicinity, and which, had time and health permitted, we would have been very much gratified to accept, as affording us a most excellent opportunity to become more intimately acquainted with the practice and principles on which the work of the farm was conducted. Amongst these invitations was that of Mr. J. B. Wells, of Franklin, which we accepted, his place being on the way homeward. Mr. Wells possesses a farm of 700 acres. This farm, like nearly all the others which we have seen in this locality, contains no land that is not susceptible of cultivation in the highest degree. The surface is undulating enough to cause whatever rain falls, and does not sink into the ground, to run off gently. The fields are cleared of stumps, and the pastures were all in excellent condition, and had a good thick coating of grass upon them. Mr. Wells was proceeding gradually with a series of improvements, taking up his old rail fences, and the bars at the outlets, and putting in their place a fence of rails and stakes, well capped, with gates and heavy posts. On this farm there are usually kept from 700 to 1,000 sheep, and many of the pastures are divided into small lots of eight or ten acres, for the purpose of separating the sheep into small flocks when the bucks are put with them. Along the brow of the rising ground which forms a part of the farm, there is a series of springs, from which water can be supplied to every field, and which is now conducted by logs to all which are used as pastures.

In the management of such a farm, the proprietor is guided, in a great measure, by the amount of labor which he can command; some seasons increasing his stock of sheep and cattle according to the hay, corn, and feed which he has been able to raise, and in other seasons decreasing them according to the amount of grain which he sows, and the number of acres of wheat which he finds it for his interest to lay down. There was no regular system for cultivation, and as a reason for this, Mr. Wells cited the difficulty of procuring the right kind of help. At present the whole superintendence of the work of the farm is committed to the charge of his son, who has a fair salary allowed him. During the year 1855

the sales from this farm have amounted to nearly four thousand dollars, and Mr. Wells furnished us with the following list of articles sold, with the amount received in round numbers:

| | |
|---|---|
| Fifty fat weathers, at $4 per head, | $200 00 |
| Seven hundred fleeces of wool, averaging 3 lbs. 14 oz., or 2,700 lbs., | 900 00 |
| Six young steers, | 150 00 |
| Two cows, | 50 00 |
| Ninety acres of wheat, | 2,200 00 |
| Six steers in the fall, | 260 00 |
| Three fat cattle, | 80 00 |
| Two calves, | 100 00 |
| | $3,950 00 |

To this must be added the produce of the dairy and the pigyard, and also several other small sales, which were not thought of consequence enough to put in the list, but which, in the aggregate would amount to some $500 more, making, in the whole, about $4,500 of clear income, or an average of $6,50 from each of the seven hundred acres. Mr. Wells raises annually from 1,200 bushels to 1,500 bushels of corn, all of which was fed upon the farm. He also cut a very large quantity of hay, none of which was sold off the farm. He grew no oats, the crop not being a favorite with him, as he considered it exhausting, and, as a grain, there was no demand for it when grown.

The system of rotation pursued on this farm consisted in breaking up the o'd sod and taking a crop of corn first. The corn is then hurried off in time to sow winter wheat, which is seeded with clover and timothy, and the field remains as a pasture or hay field for two or three years, or longer, as the work on other portions of the farm may require. Thus wheat is grown on the same farm every four or five years. This rotation is pursued by a large number of farmers in this neighborhood, and, from the amount of labor which it saves, is considered profitable. Whilst it saves labor, however, it must be admitted, even by its advocates, that it affords no opportunity to get the field into that perfectly smooth tillage into which such land as that around Tecumseh might well be put. The discarding of the oat or barley crop is, therefore, a questionable benefit. From this cause, also, the pastures and meadows are not smooth, but rather rough and hummocky. Where wheat is thus grown, after corn, a large and heavy roller would be found of much service, if passed over the wheat fields immediately after the clover seed is sown in the spring.

Mr. Wells finds the Ide Wheel cultivator an indispensable instrument. Seven years ago, he told us, when he first purchased one of these cultivators, at an expense of $30, he thought it a very large sum to give for an implement, and which he thought could only result in an experiment. But since that time, he has paid nearly ten times that amount to purchase a Ketchum's Mower, and one of Seymour & Morgan's Reaping Machines, without half the compunctuous visitings with which he had to contend when he made the first trial of Ide's Wheel Cultivator.

On the gravelly and somewhat stony surface of his farm he found that the Seymour & Morgan finger bar would not work, when made of cast iron, and that during the season of 1855 he could not work it to advantage. This season, with wrought iron fingers, he has found no difficulty, and the implement has almost paid him for the amount it cost him, in the saving of time, labor and grain which it effected.

The sheep which Mr. Wells keeps are a mixture of French and Spanish merinos. By constant care in selecting out the poorest and most feeble, for sale, and breeding from the most healthy and robust, he has now a flock which averages nearly four pounds of fine wool to each sheep, and which brings him from 40 to 42 cents per pound for the wool. Some of his sheep go as high as five or six or more pounds, but this weight of wool is not general. He grows each year an acre or two of Swedish turnips, which he finds very useful, during the winter season, for feed, and beside the lower floor of his barn, he has a cellar roofed over, in which this crop is stored. Through the roof there is a wide tunnel, which not only affords a facility for storing, but also permits the cellar to be ventilated, and thus aids to keep the turnips in a sound state. The cellar is provided with a door which leads into the sheep folds, which are arranged in two stories under the great bay of the barn, and also under a straw barn, which is attached, as a wing. to the rear of the barn.

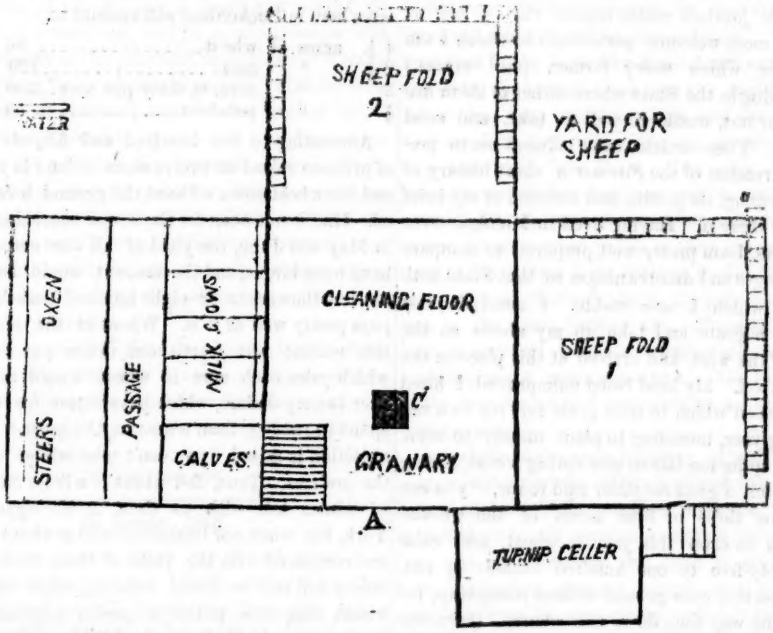
The wood cut which accompanies this article will give a good idea of the plan of the basement of this building, and of its arrangement. The barnyard is supplied with troughs, and a convenient supply of water brought from the spring of which we have before spoken. The arrangements for shelter, for ease in feeding, and for economy of labor in the winter season, are very well planned.

The cattle upon this farm are mostly natives, with a cross of Devon. Mr. Wells has several cows which were sold to him as red Durhams, from the stock of Mr. Wadsworth, of Geneseo, New York. From their size, appearance, color and general conformation, we had a strong impression that their progenetors had been crossed with Devon blood. Among the young stock, Mr. Wells had two very thrifty bull calves, in which the cross blood characteristics were very strong, and the Devon points very prominent.

The horse barn, hog stye, wagon shed, corn cribs, tool house, are all located in a yard connected with the house and on the same side of the road, The main barn and yard are on the opposite side of the road, which runs past the front yard. This arrangement makes this department convenient for feeding purposes, and also keeps the horses and wagons so

that they can be attended to or used, without going far from the house. Among the stock we saw a remarkably good full-blood Suffolk sow, which was in fine condition. There also were some very excellent hogs in the pen, which were getting ready to be made into pork, during the fall, whose healthy appearance and well proportioned forms pleased us very much. Some of them were nearly full-blood Suffolk.

We cannot close our notice of this farm without noticing a fact which it may be well to record. Mr. Wells stated that during his whole career as a farmmer, he had never grown corn nor barley for sale, and that he had never sold a bushel of grain from his farm to be used for distillation or brewing; and he was pretty certain that at the present time he was just as well off as if he had.




The above plan represents the basement story of Mr. Wells' barn, with one exception, which cannot be shown. Over sheep fold No. 1 there is a second story, which is of equal size with that represented by design, and the entrance to which is at *B*. The letter *A* marks the position of the main doors to the floor of the barn; and the grating at *C*. is the trap in the threshing floor, by which the thrashed grain descends to the basement, by falling first into the fanning mill, which is placed immediately below. Sheepfold No. 2 is the basemement of a wing attached to the barn, and in which wing is stored the straw, after it has passed through the threshing machine. When there is more of this straw than can be placed here, it is stacked in the yard.

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YPSILANTI PLAINS.—Mr. S. B. Noble, in a letter recently received, thus speaks of the tract known as the Ypsilanti Plains: "The plains are situated about a mile and a half north-east of the village, and the tract contains about two thousand acres, divided off into farms of from eighty to two hundred and fifty acres each, most of which is very highly cultivated. These plains are dotted with fine residences, with out-buildings, orchards, and fruit-yards surrounding them. Here is situated the farm and nursery of E. D. Lay. This nursery has been one of the most extensive in the West, and from it have been sent many of those fruit trees of Michigan, whose products now do so much credit to the State. Here are also situated the farms of the late Grove Spencer, and of the Messrs. Harris, Rorison, Hutchinson, Forbes, Loomis, Babcock, Hibbard, Peck, Watrous, and many other well known friends of the Farmer.—Some of these farms extend to the timbered lands. In the town of Superior. Near the edge of these plains, is the residence and farm of William Goodall. Mr. Goodall is quite an extensive breeder of what is called the Red Durhams. At the present time his stock consists of forty head, old and young. His cows are as fine specimens as we have seen any where. He disposed of his famous bull last season, to a gentleman from Wisconsin, and in his place he has procured one from Ohio. He has also a very fine young bull of his own raising. Mr. Goodall informed us that he could sell all the stock he could raise, as fast as he could put them in market. His farm contains five eighty acre lots of deep rich soil, well adapted to grazing. His corn crop was very superior, and promised a most abundant yield."

## How Farming is done up in Illinois.

Mr. Editor:—I have noticed occasional articles published in papers east of this, setting forth what their writers understood to be "the advantages derived from farming in Eastern States over the West." Also, "the inducements to stop in Michigan rather than venture farther toward the land of sun-down." Some of which articles have appeared in the Michigan *Farmer*, and others in the *Rural New Yorker*, two valuable journals whose regular visits I hail as among the most welcome periodicals to which I am a subscriber, which every farmer, (and others,) whether living in the State where either of them are published or not, would do well to take, and *read attentively*. These articles have induced me to present to the readers of the *Farmer* a short history of western farming, its profits, and a sketch of my brief experience there in. Having lived in Michigan over twenty years, I am pretty well prepared to compare the advantages and disadvantages of that State with the one in which I now reside. I concluded last Spring to migrate and take up my abode on the prairies of the west, and arrived at this place in the month of April. My land being unimproved, I hired twelve acres on which to raise grain for my own use the coming year, intending to plant mostly to corn, thinking it quite too late to sow spring wheat, (being the 20th,) but a good neighbor said to me, "you can as well sow three or four acres of the ground you intend to crop this year to wheat, and raise from seventy-five to one hundred bushels as not, *sow right on that corn ground without ploughing*, for for that's the way they do in this country," (corn was raised on the land the previous year, and the stalks were standing on the ground, as corn is seldom cut up in this country.) Whereupon I harrowed down the stalks on a portion of the land, (which I have since measured, four and one fourth acres,) raked them in heaps with a horse rake and burnt, sowed on the seed wheat, and harrowed twice over and left it as other Suckers do their wheat, to run its chance. Much of the spring wheat is sown in Illinois in the same way, without ploughing minus the raking, and burning the stalks, from which good crops are realized. I was not accustomed to this method of farming and thought perhaps I might get five or ten bushels per acre; but it took root, and grew beyond my expectations, and, Mr. Editor, you can imagine my surprise at the result; it weighed out eighty-six (86) bushels of as handsome plump wheat as often grows out of the face of old mother earth, weighing sixty four (64) lbs., to the measured bushel, making excellent flour, and as good bread as any eastern man ever eat, or could desire; the truth of which I will convince any person who will favor me with a call, by giving him an opportunity to eat of the loaf and other food made from the flour of this wheat. I sowed also two and one-fourth acres to oats, which yielded over one hundred and twenty bushels. I planted five acres of corn which is No. 1 for this year, standing quite even and high, much of it eleven, and some twelve feet in length, and will yield from sixty to eighty bushels of shelled corn to the acre. The balance was planted late with potatoes, which were very much injured by the severe drought, and will yield only about fifty or sixty bushels in all. But Mr. Editor, let us see what the bushels raised on twelve acres here in Suckerdom will amount to.

| | | | |
|---|---|---|---|
| 4 ¼ | acres of | wheat | 86 bushels. |
| 2 ¼ | " | oats | 120 " |
| 5 | " | corn, at sixty per acre | 300 " |
| ½ | " | potatoes | 50 " |

Amounting to five hundred and fifty-six bushels of produce raised on twelve acres of land in one year, and the wheat sown without the ground being plowed. Had it not been for the severe scorching drouth in May and June, the yield of all the corps would have been larger, and the amount would have been not less than seven or eight hundred bushels, but it pays pretty well as it is. Wheat at the opening of this market was worth one dollar per bushel, at which price each acre in wheat would amount to over twenty dollars, which pays better for the time spent in raising, than a seat in Congress. But the objection is raised, "you can't raise winter wheat on the prairies. True, fall wheat is a little more liable to winter kill with us than in Michigan or New York, but when our bushels of winter wheat per acre are compared with the yield of those States, Suckerdom will not be found wanting, while for spring wheat, oats, corn, potatoes, garden vegetables, &c., &c., we can decidedly outdo Michigan, New York, or any section in the east that cares to compare products with us.

The soil here is neither clay, sand, nor muck, but a composition of matter in which these at least form a part of the ingredients, not being a sufficiency of the former to make it heavy and hard, for it never bakes, nor of the second to make it thin, nor of the third to cause rust and shrinkage in wheat, in color it is nearly as black as the faces of Africa's sable sons; being mellow and light, it cultivates easily, (by light I do not mean thin, but the opposite of that kind of soil which is heavy, and after a rain it runs together like melted pewter.)

The many obstructions which in some sections prevent the use of machinery on the farm, do not exist here, we have neither stumps, stones nor grubs, to impede our work. Corn is planted and much of the wheat is sown by drill, the corn is never hoed, but cultivated, with cultivator, shovel plow, &c., while the reaper and the mower entirely and rapidly perform the work which once had, (and still has in some sections,) to be accomplished with those slow and man-killing instruments, the cradle, and the scythe; and the

unpleasant business of husking corn during the cold portions of autumn, with sore and chapped hands, which always attend that operation, is saved, to those who choose, by the use of the corn thrasher, the corn being picked and thrown into a heap, then scooped into the machine, which separates the shelled corn from the cobs and husks, and cleans it fit for market.

I have thus attempted Mr. Editor, to present to the readers of the *Farmer* a hasty and partial description of prairie soil, and its productiveness, with a brief sketch of the practical operations of farming here, with a little of my experience therein, from which can be gathered some of the reasons why I think the west presents superior and tempting inducements to the practical farmers and others. If my letter was not already quite too long, I would say something of the health of the State, and of such sections as would be advisable for northern and eastern men to settle in, also upon the wheat crop of this year, and the superior advantages that here exist for stock raising.

Mr. Editor you will please pardon the length of my letter, this being the first I have ever presented to the *Farmer*, though a subscriber for many years, and I will promise to be more brief should I ever trouble you with another. J. W. M.

*Genesee, Henry Co., Ill., Sept. 15th, 1856.*

## A Paper Mill.

Paper is an article, which like bread, there is a very constant demand for. Until quite lately this State has had no mill in which a first class paper could be made. During a late visit to Ann Arbor, while enjoying the hospitalities of J. H. Lund, Esq., we paid a visit to the new mill, which the firm of Lund, Chapin & Co., have recently built at Geddes, a station on the Michigan Central Railroad, about four and a half miles from Ann Arbor.

The building is of wood, and situated close to the banks of the Huron river. This stream hardly affords enough of water for the wants of the various mills and manufactories dependent on it for driving power. And at the present season, there is not enough of water furnished by it to keep the mill at its full manufacturing power. This causes much delay, and even affects the *Farmer* sometimes at this season. Above this mill is the large flouring mill of Mr. Sinclair, whose dam, when the water is low, shuts off a supply from those below. The paper mill at Geddes is four stories high, and each story is appropriated to a certain department of the manufacture. Commencing in the highest story, the rags are here hoisted from the truck on which they are conveyed from the warehouse. The rags are here sorted out by women, the white from the colored, and the colored separated from all woolen or rough stuff, which may be unfit to make other than the coarsest or wrapping paper; buttons are cut off of old coats and vests, and hooks, eyes, whalebones and other unavailable articles detached from the exuviæ of that which once had covered dainty forms. After the rags are sorted, they are put into a cylinder, which contains a shaft with beaters, and here all the dust is beaten out of them. They then pass to the second story, and are put first into two large vats, where they are steamed with chemicals, for the purpose of bleaching. From these vats the rags are lifted by men, with iron implements like grapnels. Thence the rags pass into a particular kind of mill containing an apparatus for tearing them into the smallest shreds. After this they pass into large oval vats, of which they are four, each with pipes to permit water to flow constantly into them. The rags as they are passed in succession from one vat to another, and submitted to the several bleaching and grinding processes, become more pulpy as they progress. The next or third story from the top, is also filled with a series of vats, through which the pulp passes on its way to the great feeding vat. From this vat the pulp is pumped into the conducting pipe which feeds the paper making machine. The lowest story in the main building is occupied as an engine and boiler room.

Attached to the main building of the mill is a long, one story wing. Here is placed the paper making machine. This machine, with its numerous cylinders, reels and apparatus extends forty or fifty feet. At one extremity the pulp is seen pouring from the feeding pipe in a soft, semi transparent pasty mass, on the wire cloths, and felt blankets by which it is taken up and passed over cylinder after cylinder. At the other end the white paper is delivered in one continuous web, which is cut into sheets by the cutting knife. The sheets are delivered by the knife, are all laid straight by a girl, and from her table they are taken, separated into quires, and tied up in bundles.

A very great improvement in the manufacture of book paper has been added to the machinery of this mill. A new, and one of the most improved Fourdrinier calendering machines, has been attached to the paper making machine. Before the attachment of this machine the paper made was rough on the surface, or, at least, had only a smooth surface on one side. This new machine calenders both sides, and gives the paper a very fine surface. It enables Messrs. Lund, Chapin & Co. to furnish a quality of paper equal to any supplied by the eastern paper makers. This new Fourdinier has been put in operation only within a few weeks.

At this new mill all news and book papers will be made. The firm do not mean, as yet, to attempt the manufacture of writing papers, the orders for news and book paper being such as to keep all their power fully engaged. The want of water durin

the fall months is one of the serious drawbacks against which they have to contend. Within the past year a very large and increasing consumption of paper from this establishment has been created at Chicago, which added to the demand in our own State, renders this business very steady.

For the supply of the mill, there is a constant demand for rags, and in one storehouse alone there were piled fifty thousand pounds of this refuse stuff. At the old mill, in Ann Arbor, there was as much more, while nearly as much was constantly on its way to keep up the amount necessary to have on hand all the time.

Of course, so large a business requires a very large investment of capital, and it cannot be otherwise than beneficial to the business interests of Ann Arbor to have so prominent a manufacture within her limits.

## The History and Use of the Barometer.

BY L. WOODRUFF, ANN ARBOR, MICH.

The time has arrived, we trust, when it is no longer necessary to render an apology for claiming the attention of the husbandman to the consideration of a subject essentially scientific. The more especially as it is intended throughout the discussion to point out the connexion between purely abstract and scientific principles, and useful and practical results. Doubtless, many who will read this article, have never seen a barometer, though all, or nearly all, have had opportunities of gaining some idea of the nature of the instrument through the medium of books. Taking this into consideration, we shall make our description as plain and direct as possible, and avoid technical phraseology. For the benefit of those who think of purchasing a barometer, and who are not already familiar with the instrument, we shall endeavor to furnish some useful hints in regard to the best forms of construction, &c.

The word Barometer is derived from two Greek words,—*Baros*, weight, and *Metron*, measure. The use of the instrument being to measure and indicate the weight of a column of air the height of the atmosphere. The discovery of this instrument was the result of one of those beautiful experiments, prompted by pure logical method which distinguished the accomplished investigator of science. That air has weight, was a fact discovered by Galileo, yet this philosopher failed to account for phenomena which result directly from this property of the atmosphere. The common pump was used for some time before the principle of its working was demonstrated; the prevailing opinion being that water rose to fill the exhausted cylinder, because nature abhorred a vacuum. A new difficulty was to be explained, however, when it was discovered that water could not be made to rise in a vacuum above 32 feet. Galileo, when asked to explain this, replied, that water was raised to the height of 32 feet on account of the horror which nature had for a vacuum, but that the horror was limited in its effects, and ceased to operate above the height of 32 feet. This answer was doubtless given sarcastically, since it is scarcely probable that Galileo really believed in the horror of a vacuum, although it is evident that he failed to account for the phenomena. The complete explanation and discovery of the principle of atmospheric pressure was reserved for Torricelli, a pupil of Galileo, and the demonstration is one of the most beautiful in the history of physics.

Suspecting that the rise of water in the common pump was due to the weight of the atmosphere pressing on the exposed surface of the reservoir, and causing a column of water to ascend in a tube to a height just balancing the pressure of the air outside, he saw that if this was the true explanation, any other fluid being substituted for water, would stand either higher or lower in the vacuum, according as it was lighter or heavier than that fluid. In order to test this explanation, he selected mercury, a fluid about 13½ times as heavy as water, and which, according to theory, should therefore rise in a vacuum to less than one-thirteenth the height of water. As the readiest means of experimenting Torricelli took a glass tube about 3 feet in length and hermetically sealed at one end, and filled it to the brim with mercury. He then inverted the tube, shutting the open end with his finger, to prevent the escape of the mercury until he plunged it into a basin full of the same liquid. His delight must have been great when he saw the mercury immediately flow out, and descend from the top of the tube, until it stood at the height of about 30 inches above the surface of the exposed liquid, as he had anticipated it would, This experiment was made A. D. 1644, or a little over two hundred years ago.

The report of Torricelli's experiment spread rapidly over the continent, but the explanation it afforded was by no means readily received. The principle of the horror of a vacuum was too firmly believed to yield at once to the simplicity of truth, and many attempts were accordingly made to reconcile the experiments of the pumps and the tube of Torricelli with that absurd opinion. It was maintained that a subtle fluid or aerial spirit was evaporated from the surface of the water, and the mercury, which filled the upper part of the tube and left only as much activity to the horror of a vacuum as was sufficient to sustain a column of those fluids. Meanwhile an account of these experiments reached Pascal an eminent French mathematician and philosopher, who immediately suggested a very ingenious method of confirming the results already obtained. This was to carry the tube and mercury

to a considerable height in the air, when, a portion of the atmosphere being left behind, the instrument should show diminished pressure and the liquid in the tube sink in proportion. The trial was made, and succeeded perfectly. When conveyed to the tops of high buildings and of mountains, the mercury in the tube always fell in proportion as it was removed above the surface of the earth, and received the pressure of a shorter column of air.—The principle of the barometer being thus established, it was soon after discovered that the height of the mercury in the tube did not remain the same, though the instrument was left stationary, showing that the pressure of the atmosphere was not constant at any place, but subject to daily fluctuations. Observation soon discovered that these fluctuations corresponded to certain changes in the weather.—The instrument thus came to be used as a weather glass, and assumed a new interest and importance which have led to various and improved forms of construction.

In Fig. 1 we give a representation of the barometer of Torcicelli, as already described, *m* being the top of the mercurial column, and *c* the open basin of mercury. The empty space above *m* in the tube is called the Torricellian vacuum. The empty tube is shown, marked *c*, in the position in which it is filled. As the variations of the barometer are often very gradual and minute, various methods of rendering them more obvious and capable of exact measurement have been sought. One of the earliest contrivances of this kind is seen in Fig. 2, and is known as the rectangular barometer. This is nothing more than the tube seen in Fig. 1 bent to a horizontal angle of say 45 degrees, or less. In this tube the mercary will of course stand at the same height above the level of that in the basin, as in Fig. 1, but when a change of height takes place, as from *b* to *a*, the mercury will fall in the tube from *d* to *a*, a distance considerably exceeding the former. If we suppose the tube still less inclined above a horizontal plane, the difference in the length of the two lines *a d* and *a b*, will be still greater, and slight changes in the actual height of the mercurial column will occasion a much more extensive movement of the mercury in the tube, so that this movement may be very accurately measured by means of a scale fixed along the tube. Practically this form of barometer was found to present little, if any, advantage in point of convenience or accuracy. The position and length of the upper part of the tube caused a considerable increase of friction in the movement of the mercury, thus diminishing the sensitiveness and accuracy of the instrument.

Another form of the barmeter less objectionable in its construction, besides being more elegant, is seen in Fig. 3; this is known as the wheel barometer, and is now in general use. The tube is of sufficient length, so that from *o* to *m* is about 30 inches, or the height at which the atmosphere will support a column of mercury. The tube is filled with mercury, as shown in the figure. The surface of the exposed mercury at *o* receives the pressure of the atmosphere, and as this is increased or diminished the mercury rises or falls at *m*, while at the same time a reverse movement of equal extent takes place at *o*. From the float resting on the surface of the mercury at *o*, a string passes over the small pulley *p*, supporting the weight *n*. An index or pointer is fixed in the axis of the pulley, as is seen in the drawing It is plain that through this arrangement a very slight variation in the height of the mercury at *o* will give a considerable motion to the extremity of the pointer which traverses the graduated circle.

The syphon barometer is another form of the instrument in which the tube is similar in shape to that represented in Fig. 3, the only difference being that the lower leg is closed at top to a capillary opening, just admitting air, but excluding the passage of the mercury. We will now imagine the tube to be filled with mercury, the same as in the last figure and the float, dial plate, &c., to be absent. The movement of the mercury is the same as in the wheel barometer, and to measure its variations an accurately graduated scale is fixed by the side of the tube at the top, and also by the side of the short leg at *o* When the barometer is observed, the extent of the movement, both at the top and bottom, is measured on the graduated scale attached, and the two results added together. The reason why the two measurements must be added, is this: Suppose a change occurs in the pressure of the atmosphere, causing the barometer to fall an inch, for example. Now in the syphon barometer the height of the mercury at *m*, must be estimated in all cases from a point exactly level with the surface at *o*. In the case we are supposing, the distance between these two points is to be shortened by one inch. As the mercury falls at *m* from diminished pressure, it also rises at *o* at precisely the same rate; consequently, when the column at *m* has settled half an inch, that at *o* has risen the same amount, and the two points are nearer each other by just an inch, which was the result to be indicated. It is evident that precisely the same action would occur in a lesser movement, and if we suppose the pressure to be increased, the mercury will rise at *m* and fall at *o* at the same rate, so that in this case also, the sum of the two movements must be found in order to measure the true difference in the length of the mercurial column. The same thing takes place in the wheel barometer, the movement of the float at *o* being only half the actual change in the height of the mercury, but by means of the pointer and circular scale, a very slight change of the mercury is plainly shown. We have now to describe the cistern barometer, the most common as it is, (when

properly constructed) the most useful and accurate form of the instrument.

It is with barometers as with every thing else, the very simplest form is found to be the best, and the most accurate and approved modern instruments are, with the exception of a single adjustment, copied directly from that first discovered by Torricelli. Before going further, it will be proper to describe the adjustment alluded to. In every cistern barometer the scale used for measuring the height of the column of mercury is permanently fixed in its position, and the beginning point of the scale is assumed to be the surface of the mercury in the reservoir or cistern. It is essential then to the accuracy of the measurement, that this surface should be kept at the same level. But the working of the instrument contin-

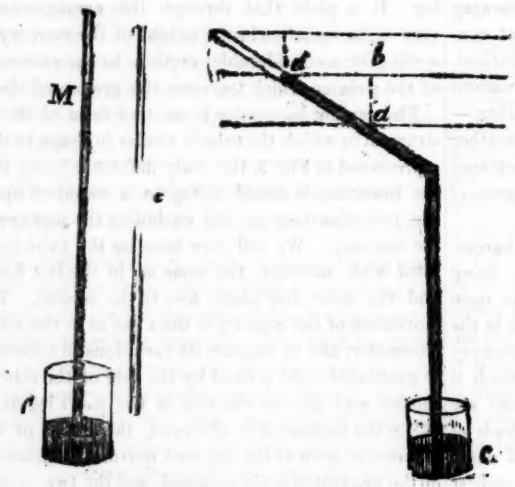


Fig. 1.




Fig. 2.

Fig. 3.

Fig. 4.

ually changes this level, for as the mercury falls in the tube it rises in the cistern and *vice versa*. If the surface of the mercury exposed in the cistern is just ten times the surface of the top of the column, then when the mercury falls an inch in the tube, it will rise in the cistern one tenth of an inch, and the fall as measured on the scale will be only nine-tenths of an inch. If the surface of the mercury in the cistern is fifty or one hundred times that in the tube, the error occasioned will be quite small, yet for the purpose of accurate observation this surface should always be brought to a fixed point. The contrivance employed by Fortin, a celebrated French artist, for correcting this error, consists in adjusting to the cistern a moveable bottom, which can be elevated or depressed, by means of a screw, until the surface of the mercury shall just touch a fixed ivory index, the point of which constitutes the zero, or beginning point of the scale. The point and screw are represented in figure 5.

Figure 4 exhibits a very common form of the barometer, the tube being turned up at the bottom and expanded to the small bulb c, which is about half filled with mercury; there is a small opening in the top of the bulb admitting air. This bulb is often much less than an inch in diameter, so that the error occasioned in the working of the instrument must be considerable. Figure 5 represents the barometer of the Detroit Observatory at Ann Arbor. This instrument cost nearly a hundred dollars and is probably one of the most perfect barometers ever constructed. The tube is enclosed in a cylindrical brass case about an inch in diameter. *a b* show the scale at top where there is an opening in the case for observing the height of the mercurial column. At the bottom the case is enlarged to about 2 inches diameter, so as to enclose the cistern. This is of glass, and the upper part of it above *m* is left exposed, showing plainly the surface of the mercury and the ivory point. At *t* is placed the attached thermometer. Opposite *n*, at the top of the figure is seen a small scale fitting against the scale *a b*.—This is the vernier; and when an observation is taken, the lower edge of this is adjusted by means of the screw *s* to exactly the height of the column of mercury, the cistern level being previously adjusted.—The vernier is a very simple contrivance for measuring small fractions of an inch. The following explanation of its construction will enable any one to understand and use it with facility. It is a small slide

of metal, either fitting against the edge or face of the larger scale. Figure 6 shows the scale S with the vernier V attached. As is represented in the drawing, the scale is divided into inches and tenths of inches, and on the vernier a space is taken equal to nine or eleven-tenths (it is immaterial which,) on the fixed scale, and this space is divided into ten equal parts. It is plain that each of these parts is equal to a tenth and a tenth of a tenth, or one hundredth of an inch. (We have supposed eleven-tenths to be taken on the vernier.) The figure represents the vernier standing at just 29 inches, and the line marked 1 falls below the line on the scale by one-one-hundredths of an inch. The line marked 2 by two-one-hundredths, and so on.

*Fig. 5.*

If now we move the vernier from the position in which it is represented, up the scale, it is evident that the line marked 1 will first meet a line of the scale. The line 2 will next coincide, and so on to the 10th, when the upper edge of the vernier will again coincide with a line of the scale, and the vernier will stand at 29 and one-tenth inches. It follows, therefore, that the figure standing against the line on the vernier which meets, or coincides with a line on the scale *S*, always shows the number of one hundredths of an inch which are to be added to the inches and tenths of inches already found. In short, the following direction will enable any one to use the vernier. Adjust the vernier exactly to the height of the mercurial column, then find the inches, and tenths of inches below it on the scale ; if there is a fraction, that is, if the upper end of the vernier does not exactly meet a line on the scale, find a line on the vernier which coincides, and the figure opposite this line will show the number of hundredths to be added to the inches and tenths of inches already found. If no line exactly coincides, take the one which comes nearest a coincidence.

Changes in temperature affect the height of the mercury in the barometer to a considerable extent, hence when the instrument is intended to give accurate results, a thermometer is attached, and the degree of temperature is noted at the time of each observation on the barometer. If during any period, the temperature (as shown by the attached thermometer,) rises 30 degrees, the barometer will stand about a tenth of an inch higher on this account, and correction must be made about in this proportion for all variations of the thermometer. In order to correct the errors continually arising from change of temperature, it has been agreed to reduce all observations on the height of the barometer to the temperature of 32 degrees Fahrenheit, the necessary correction being found from tables constructed for the

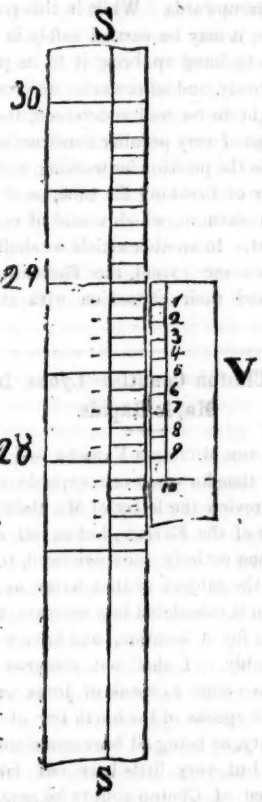

*Fig. 6.*

purpose. We have thus briefly described the barometer with the adjustments and accompaniments indispensable for accurate observation. For observing a perfect or standard instrument, the following directions are important, viz :—First note the temperature of the attached barometer, next, by means of the screw at the bottom of the case, bring the surface of the mercury in the cistern to a constant level, and lastly, adjust and read the vernier. Before making this last adjustment, it is important to jar the barometer slightly, so as to remove the adhesion of the mercury to the tube, that the column may take its true equilibrium.

If the barometer is not handled too much, and the instrument is a good one, it will work accurately for an indefinite period of time. Having fixed the instrument on a suitable support, the bottom should

also be secured so that it cannot be moved much out of a perpendicular position, or otherwise injured by meddlesome persons. If a barometer is to be moved, even for the shortest distance, as from one room to another, the cistern must be slowly screwed up so as to be filled with mercury, or, if the mercury cannot be seen, until some resistance is felt; the instrument may then be taken from its support, *and very slowly* turned bottom upwards. While in this position and perpendicular, it may be carried safely in the hand. When it is to be hung up, bring it to its proper position very slowly, and afterwards unscrew the cistern. It ought to be well understood, that no barometer (except of very peculiar construction) can be moved when in the position for working, without great danger, either of breaking the tube, or of introducing air in the vacuum, which would of course spoil the instrument. In another article we shall endeavor to explain, to some extent, the fluctuations of the barometer, and their connexion with atmospheric changes.

## Ionia and Clinton Counties—Lyons, Ionia and Maple Rapids.

Editor of the Michigan Farmer:—I have been waiting some time for some one capable of the undertaking, to review the letter of Mr. Baldwin in the May number of the *Farmer*, but as all others are silent, allow one entirely inexperienced, to write a few lines on the subject of that letter, as there are some things in it calculated in a measure to mislead those looking for a location, and have not time to look thoroughly. I shall not disagree with him much until he comes to speak of Ionia and Clinton counties. He speaks of the north tier of townships of Ionia county, as being all burr oak plains, when in fact there is but very little burr oak land in the county. Then of Clinton county he says, "Clinton county as a whole, in point of evenness, of unsurpassed beauty and variety of timber, absence of swamp land, and beautiful rills and brooks of limpid water, is probably the banner county." Now in all this I must disagree with him, except, in the evenness of the soil, and beauty and variety of timber. There is a large amount of swamp land in the county, especially in the northern part. A large portion of one entire township being a swamp. Then the Maple River traverses all the northern tier of townships, and that is one of the most sluggish and disgusting streams in all the State, having in nearly its whole course, from one-fourth to one-half a mile of swamp bottoms on one side or the other. And as for rills and brooks of limpid water, I know of but one, (there may be others,) in the county; that is a fine little stream rising from springs in the township of Essex, but it is soon lost by uniting with the discolored waters of Maple River. All the other streams that I am acquainted rise in swamps and marshes.

Again he says in speaking of villages, "Ionia is a pleasant little village nestled under the hills, but does not exhibit the spirit of advancement, manifested by the village of Lyons, some ten miles above." Now any one who is acquainted with both places knows that there has been more done in the way of advancement at Ionia, in the last year and a half, than was ever done in Lyons, after the first white man struck a blow. He gives Lowell, Fish Creek and St. Johns quite a puff, but says nothing of Maple Rapids, a place equal perhaps in size and rapidity of growth to either of the others, and the most natural place for a village in all Clinton county. It has a very good water power, obtained from the river, and is surrounded by the finest of farming lands. Some years since the State appropriated a considerable sum to clear out the river up to the site of the village, (then known as the Campau place,) and boats capable of carrying a considerable amount of wheat were run up from Ionia and Lyons for wheat. The place however, can have but little claim to the name of rapids, for there is not over three or four feet fall in the river for half a mile, but it comes nearest to being a rapid of any place in the whole length of that stream.

What kind of a land office did Mr. Baldwin find at St. Johns, was it the office of some non-resident land agent? I have never heard that either the General Government or the State of Michigan had established a land office there.

Yours, most respectfully,
D. G. Smith.

*Ronald, Ionia county, Sept. 4th, 1856.*

[Mr. Baldwin, to whom our friend Smith refers, is now in New York. He was an earnest, truthful man, and though not an experienced writer, he described in a plain way, many of the places he visited during the past year, just as they seemed to him. We do not believe he meant in any instance to wilfully praise one locality at the expense of another. If in any instance he has had wrong impressions, there are opportunities afforded for corrections. Not yet having had the pleasure of visiting either of the counties above referred to, we cannot say whether the description of Mr. Baldwin is too highly colored or not; meanwhile we lay Mr. Smith's letter before the public, and have no doubt but that if he is incorrect, or the impressions he seeks to convey are unjust, there are enough of our readers who will defend the localities he refers to on all the points discussed therein.—Ed.]

☞In some parts of Indiana, the wheat has not proved an average crop; and the dry weather has injured the corn so that a full crop is not expected from it.

## Some Farms at Ypsilanti.

During a short visit which we paid at Ypsilanti in the latter part of the month of August, we visited the farms of Mr. John Starkweather, Mr. John Phillips and Mr. D. M. Uhl. The first is situated about a mile west of the village, on the south side of the Huron River. It consists of land that rises gradually from the river till it reaches nearly the highest point of the rolling land stretching south of the Huron. The soil is inclined to be a loamy sand, with but few stones or boulders. This soil Mr. Starkweather has materially improved by giving it the benefit of heavy coatings of manure, which he had drawn from the village. This was done before he had the time to stock his farm so as to supply his fields with manure from his own barnyard. The result of the system was to be seen in the very excellent crop of corn which he had grown this season; and which for evenness of produce, and strength of growth we have seldom seen excelled. There were very few vacant or unused hills, and it was hoped that the produce would reach 80 or 90 bushels per acre. In this field we noticed many heads which were affected with the black fungus called smut. In wheat this is cured by liming and steeping in brine, or by steepieg in a pretty sharp solution of blue vitriol. Why would not steeping the seed corn in a solution of blue vitriol have a like effect, and destroy the vegetating power of this pest? Amongst the corn there were a good many pumpkins, but Mr. S. did not appear to be satisfied with two crops, he had sown a thin sprinkling of white turnip seed between the hills, and the result promised quite a large quantity of turnips. He also had a promising lot of Swedish turnips, but whoever had raised the seed had not kept it pure, as we noticed a number of bastards, or hybids in the rows.

Mr. S. has a fine flock of Spanish merino sheep, but these being at a distance from the house, we did not see them. He keeps a short-horn bull of the Van Cleve stock. This animal has many good points, and shows in form the make of the earlier importations from England. The whole of this stock are known as good getters of milk cattle, and as making a decided improvement on the native cattle, where crossed with cows of good milking capacity. He had some half-blood steers, and also some grade and full-blood calves, with the appearance of which, both in respect to form and evidence of early maturity, and capacity to put on flesh and fat, we were much pleased. The bull, in color, is red and white, the red being laid on in large patches. Many of his progeny show a good deal of the same color. Mr. Starkweather questions very much whether the later importations of high priced short-horns are calculated to improve the stock of Michigan, for the reason that nearly their whole capacity as dairy stock has been destroyed in the efforts made to render them fitted only to mature early and to fatten to a great weight at two or three years old. In the purchase of this improved stock, therefore, the question has to be met, whether the breeder in this State ought to sacrifice all the dairy properties of his stock to the mere flesh forming qualities. We are just now much in want of good milk cows. It is difficult to pick up or select one hundred first rate milk cows, that the owners are willing to sell, or that they ought to sell, by any one forming a dairy in any one county. This fact renders the suggestion of Mr. Starkweather of much importance.

Mr. Starkweather had also a very fine four year old colt, named Sebastopol, which is to be entered among the horses for all work competing at the State Fair. He is a deep bay, well formed, though light, with good action, and a quick step.

The water which is supplied to Mr. Starkweather's barn, house, and several of his lots, is forced up hill through leaden pipes, by a water ram from a spring which wells out the hill-side about forty or fifty feet below the level on which his buildings are situated. The ram works steadily and constantly, with little or no intermission, except when a stray leaf or twig happens to get into the valves. The orchard is close to the house, and has a large number of valuable and choice fruit trees in it. This orchard was sown to clover some years ago, but has since been ploughed up, and a crop of oats was taken off from it a year ago, but no seed was sown with them. Last fall, however, the clover showed itself quite thick, and this season there is a very heavy crop. Among the implements which we saw here, Mr. S. had a very good cornstalk cutter, which had three cutting knives fastened on a revolving circle The knives cut against a stationary edge, on the principle of shears. The clip was clean, and raked enough to cut a large quantity in a short time. The operation gave us a very favorable impression of this straw-cutter. We do not recollect the name of the maker.

### THE FARM OF MR. JOHN PHILLIPS.

The farm of Mr. John Phillips is quite a contrast in soil and location to that of the one just described. It is situated on the opposite side of the Huron river, the banks of which form its boundary for about a quarter of a mile. Part of the bank of the river is a steep bluff, covered with trees, but this bluff recedes and leaves a flat between its base and the river. This flat has all the most fertile properties of that class of lands, but from its location, being but a little above the surface of the river, being overflowed sometimes, and also from the springs which flow out of the bluff, it is damp, cold and spongy. While looking over it, and examining its capabilities for improvement, we took a handful of the soil, where the surface was highest, and it should

have been moderately dry and warm, but we found it cold, damp, and evidently sour. The soil itself was a rich black friable mould, containing enough of sand and gritty matter to make it light and fertile in the highest degree; and as if to render it still richer, there were also interspersed through it small particles of marl lime and shells. The high bluff which bounds this flat, is composed in part of gravel, and part of clay. The land on the top of the bluff, and which stretched down the land side, of the farm and formed a large portion was a clayey loam, in some parts mixed with gravel, and containing large boulders in places. The fields sloped down from the crown of the bluff to meadow lands through which a small brook runs, the course of which Mr. Phillips has been at some pains to straighten. On the other side of this brook the fields rise with a more gentle slope than those on the side next the bluff, and the soil is lighter and more gravelly, though not losing the clay character altogether.

Mr. Phillips has been on this farm for over thirty years, having originally purchased it from the United States Government. His house was the first frame dwelling built in the town of Ypsilanti. During the past year he has been making some additions and improvements to it, but still it is the substantial frame originally raised.

On this farm Mr. Phillips found that the crop of Mediterranean wheat far exceeded the bluestem the past year, the first yielding about 20 bushels per acre, while the latter did not exceed eight bushels. His crop of hay, corn, and potatoes looked well, and promised to ripen early.

In stock, this farm bears a high reputation for its milk cows, and the profits derived from the dairy are considerable, the produce of which being under the superintendence of Mrs. Phillips, enjoys a very excellent repututation, and finds a ready sale at high and steady prices from customers who are very glad of the opportunity to be served with an article of the best quality. The present stock of dairy cows kept on this farm are low-built, short-legged, small-boned, heavy-bodied animals, of native stock. They are well selected for dairy purposes, but not peculiarly handsome. Their coarsest points are their heads, necks and tails. Mr. Phillips has been crossing them with Mr. Starkweather's bull, and also with the short horn stock of Mr. Uhl. Some of his young stock are very thrifty, and give promise of excelling their dams for dairy purposes. The sheep on this farm are Southdowns and Leicesters, with their crosses. This cross, though not growing fine wool, it is thought by their owner, is more profitable on his farm than the finer wooled varieties, and he can readily sell them for mutton, and as the yearling wethers are worth a dollar a head more if well fatted, than any merino, either of French or Spanish grade, he finds that they pay him better. There are only hogs enough kept for family consumption, the rearing of calves using up all the milk and dairy refuse.

Mr. Phillips has long been anxious to improve the flat which is mentioned above, as forming a part of his farm. It is a difficult piece of land to handle, and yet with time and some outlay of capital it might be made the best paying lot on the farm. Its present condition is such that it will need a combination of draining and of raising the surface before it will become the source of a steady profit. For instance, it is kept wet from two causes, the slight surface fall, which does not permit the overflow of the river to be got rid of, and the water that flows into it from the springs that exist in the bluff. The surface of the flat itself descends slightly from the bank of the river to the middle of the lot, and also from the foot of the bluff to the same line. Even with this slight fall, in ordinary cases, pipe tiles of two inch size, at twenty feet apart, would carry the water clear off if laid from the bluff to the bank of the river; but there is a water hole, or low place at the south end of the field, where the surface of the soil is below the ordinary level of the river. An open ditch cut from this water hole to the river would keep the flow from it to the river uninterrupted, and by running a main drain of a six inch sole tile down the centre of the field, making the pipes drains branch from it towards the bluff and to within ten feet of the river bank, there would be a better and more complete drainage, and also one less liable to interruption from the overflow of the river at any time. It would need a four or six inch sole tile laid along the foot of the bluff to catch the water from it, and this drain also might be made to connect with the water hole. None of the drains on this piece of ground could be sunk more than twenty or twenty-four inches below the present surface on account of the river. But the bluff presents a cure even for this, as it would be but little expense after the drainage was thoroughly completed, to add an inch or two of soil to the field every winter, by covering it to that depth with the gravelly clay of which the high land is composed. As one inch of soil on the acre is equal to 100 tons, it is, therefore, easy to calculate the labor of such work. The mixture of gravel and clay with the vegetable peat and the marly, calcareous muck of this flat would render the surface dry and abundantly fitted to grow corn, roots, cabbages, or hay. The drains being perfected, and well laid down, even if the river did overflow, there would be channels enough to conduct the water out of the soil as soon as soon as the river fell back to its usual height; and then the spring overflow might be considered more of a benefit than an injury. During the winter months of each year the carting of the gravel or clay soil from the bluff

might be repeated, so that at the end of six or seven years the surface would actually be raised from ten to twelve inches higher than it now is, while the drainage would still remain perfect at a depth of thirty or more inches below.

This improvement would involve a considerable outlay for the drainage, at first, but in the end the crops repay. In fact the first crop of corn with our usual season of drouth, would more than repay the interest on the capital sunk. At present the field is worthless, except as a mere run for sheep or cattle, while it contains all the elements of the richest crops, and would really be as fertile and as easily tilled as a garden, were the water furnished with channels by which it could be conducted to an out fall.

D. M. UHL'S FARM.

The farm of D. M. Uhl presents characteristics entirely different from either of the two farms, just described. Mr. Uhl cultivates altogether three hundred and thirty-six acres, of which one hundred and seventy-six belongs to himself, and one hundred and sixty to Dr. Towne. These lots are on a tract known by the name of the "Ypsilanti Plains," which is a flat table land of about 2000 acres in extent, that is bounded on one side by the slopes which form the rising grounds from the Huron river, and on the other sides by tracts of rolling country. The soil on these plains is very fertile, and easily worked, being a rich calcareous friable loam, with just enough sand and gravel to make it sharp enough for good crops of wheat, without any great expense for cultivation.

Within a short distance of the road, so as to leave room for a neat ornamental ground in the front, a new house has recently been erected at a cost of $2700. The basement is one of the handsomest pieces of stone work masonry we have noticed in either city or country. The boulders from which the stone were blocked, were drawn from the farm of Mr. Phillips, and the work peformed by a Mr. Gill, of Ypsilanti village. It is very creditable to his skill as a workman. The house presents a gable end as a front, with a wing, over which is a neat piazza. In the rear of the main building, is a two story addition in which is the woodshed, kitchen, and rooms for the help, with stairs independent of those in the main building. Behind and around the house is the fruit and vegetable garden, and which might be separated from the front garden by hedges on either side, of privet, red cedar, hemlock, or spruce, set thickly and kept trimmed close. The privet is the fastest grower, and is perhaps the best for those who are inexperienced in growing hedges.

The barns are located at a very convenient distance in the rear of the house, and a wide lane conducts to them from the road. The main barn is in the middle, at one side are the stables and cow houses; all so connected with the granaries and feeding houses, that an alley leads from them directly in front of the talls, so that all the animals can be fed in front. The range of stables is protected in front by a portion of the roof, which projects over the whole front about four or five feet. This shed permits the stable to be cleaned in stormy weather, without the workmen suffering from its effects. On the opposite side of the yard is a range of sheds containing stalls to be occupied by cattle during the winter. In the rear of the barn are other ranges of sheds and yards for sheep or young cattle. In the middle of the yard is a very large stack of wheat straw. This is consumed by the cattle during the fall and winter. As these stacks are usually consumed, there is a great waste. The cattle generally eating under them and pulling out a great part of the straw. This is tramped down, until it forms a mound which rots and destroys a large portion of the bottom of the stack, and besides covering it up, injuring the value of the straw as an article of food. To prevent this Mr. Uhl makes it a regular duty of his men to draw from the stack every morning, all the straw which his cattle has tramped down during the preceding day. This straw being mixed with the manure from the horse stables and cow houses, and trampled over by the young cattle, is so thoroughly rotted by the time he is ready to draw it out to apply it to his corn fields, that he never has the least difficulty in plowing it in, or in loading it up.

Until quite recently Mr. Uhl has paid much attention to the raising of fine wooled sheep, and the records of the State Society show that his efforts have been very successful. Now, however, the system is changed, and instead of sheep, Mr. Uhl has determined to devote his attention so far as the stock department of his farm is concerned, to the raising of short horns. With Mr. Starkweather, and ourselves, he recognizes, to the fullest extent the importance of good dairy stock to this state; and he is therefore resolved on improvement in that direction. He has now some remarkably fine full blood, and six and seven-eighth grade cows, which show very prominent points as milkers, without sacrificing their size, or that massive squareness of form which belongs to the early maturing short horn. Amongst the cows, he showed us a very handsome white full blood, of a medium size, which was then suckling the third calf this season having raised her own and another previously and which at the same time was in a better condition than many fat cattle that go the butcher. We have now before us a portrait of the bull to which was awarded the first prize of the Royal Agricultural Society of England in 1855, and she might be taken for a calf of his, so complete is the resemblence in color and general contour. This cow was broughtfrom Rhinebeck, Dutchess county, N. York. And the whole family from which she springs is noted as milkers. They are from importations of improved

shorthorns, by old Governor Lewis, of that state. From the skill, attention and fidelity which Mr. Uhl will give to the breeding department, we are in hopes he will do much service to the dairies of this State.

We cannot pass over the young cattle, without noting the splendid yearling, which he will show at the State fair, and which now weighs over 1100 lbs. It has had no feed but the pasture during the summer.

One of the objections which Mr. Uhl raises against the keeping of sheep is the little benefit they are to the land. Turn them into a clover field, and after getting their bellies full, they resort to some particular spot, either beside the fence, or under trees, and all their manure is to be found there. Besides the profits from them when compared with that of their equivalent in cows or young cattle are very moderate. So that either as a benefit to the land, or as sources of profit, they are not equal to cattle. From these reasons, sheep have been discarded by Mr. Uhl. With this we do not altogether agree, for if cattle are kept for the dairy, there must be a large margin allowed for the amount of attendance necessary both in the cattle yard and in the dairy, and which sheep do not require. In Great Britain where sheep are turned upon light soil land, for the express purpose of feeding off turnips, and enriching the land by their manure, and also to consolidate the soil by the tramp'ing their feet give it, they are folded on small divisions of the lot by means of a moveable fence or hurdles, which are moved from time to time as the feed gets eaten up.

Among the horses which were upon this farm, were a pair of very promising colts out of a good and fast mare. These colts were sired by Toronto the Norman horse which we spoke of in the last number as being now the property of B. J. Bidwell, of Tecumseh. During our visit to this farm, we did not have as much of an opportunity to examine it in all its extent, as we desired, owing to a violent attack of the ague and fever, whilst there. But we hope to be out that way again, with the design of examining more thoroughly the practice pursued by the several farmers in that vicinity.

## For Breeders—Improvement of Stock.

EDITOR OF MICHIGAN FARMER—

SIR:—As there is a growing interest in this State on the subject of the improvement of the breed of horses—and as opinion seems to be for the most part settled down in regard to the comparative excellencies of the two most celebrated and rival families of the horse, the Messenger and the Morgan—in favor of the Messenger—I propose to set a point for future reference in the columns of your paper. I claim to have a mare and two colts—one a yearling, and the other a suckling—more thoroughly imbued with Messenger blood, and possessing more Messenger characteristics than any other animals in the State. They will, accident not preventing, be exhibited at our next State Fair, and I send you their names and pedigrees for convenience of reference and prevention of error, should occasion hereafter make recurrence to them necessary. My sole object is to foster and promote improvement in our stock. I am determined *to breed from the best*, and believe *I have the material*. The mare and colts referred to, and here named, will be held ready for competition at our State Fair, with any stock in the world, either in speed or endurance, or both. Their names and pedigrees are as as follows:

1. **Mason's Madame, or Simp on Mare.**—Bay, seventeen hands high. Sire, Paymaster Mambrino—He by Mmabrino—He by imported Messenger. Dam, by Mount Holly—He by imported Messenger.

It will thus be seen that this animal is the product of in-breeding to a remarkable extent—being but two removes from old Imported Messenger—on the sire's side—and only one remove from that world renowned horse on the side of the dam. The wonderful qualities of this mare—her great strength and endurance, tremendous speed, and action withal—combined with her extraordinary size, render her, I think, the best brood mare in the west.

2. **Abdallah Capax**—Bay suckling colt—Foaled May 4, 1856, out of Mason's Madame by Abdallah Chief—He by Abdallah, he by Mambrino, he by Imported Messenger. Dam, of Abdallah Chief, the Matthew Barnes mare—got by Phillips—Her dam by Decatur. Phillips' sire Old Duroc—Dam by Messenger.

3. **Abdallah Roebuck.** Chestnut yearling colt, foaled June 5, 1855—Sire, Abdallah Chief—Dam, Lady Washington—Her sire, Washington, brother of Andrew Jackson. [I am credibly informed that Lady W. (now owned by me, and ten years of age,) has trotted her mile in 2:34. Injury to one of her fore feet some years since disabled her except for light use, and breeding. Her dam at seventeen years, trotted in three minutes.]

The pedigrees of these colts show a combination of blood rarely to be found, and *never excelled* The Abdallah strain characterizes the colts more distinctly as trotters, than their dams, as Abdallah left the best trotting branch of the Messenger family (*vide* YOUATT ON THE HORSE); and if there be anything in the doctrine, that "like begets like," and anything in the fact, that my animals can vindicate their noble ancestry, by performance, I think high expectations may be indulged of my stock.

Yours &c., E. N. WILCOX.

*September*, 1856.

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Noel J. Becar, is dead. He was known as the opulent merchant, who united with L. G. Morris in the purchase and importation, of improved shorthorns, and south downs, and his farm on Long Island was stocked with cattle and sheep of these varieties.

# Horticultural Department.

S. B. NOBLE, EDITOR.

## October.

This is a month in which much is to be done. The crops that have had the care of the gardener and fruit grower have matured. The roots in the garden, as beets, carrots and others, will want attention; dig them carefully, cut off the tops about two inches above thhe crown, transport them to the cellar without bruising. Beets, carrots, and most other roots keep much better if they are covered with dirt in the cellar, and all the crevices filled with it; put a covering over the entire heap.

Winter squashes and pumpkins should be placed on a shelf in the cellar where it is neither too cold nor too warm. Save all seeds of vegetables that will be wanted, clean off the garden, secure the bean poles and stakes for winter quarters, spade up the soil and leave it in ridges for the action of frost, and gather the remaining fruits. Apples and pears ought always to be picked by hand, and all that are bruised kept by themselves.

ASPARAGUS.—When the tops are destroyed by the frost, cut them off close to the ground and let them be till dug, then burn them on the bed, after which spread over the bed a coat of well rotted manure, three or four inches deep, this may be kept till spring, then fork it in, mixing it well with the soil, and apply a weak brine, sufficiently strong to destroy weeds. The ashes of the haulm, the manure and salt will promote the growth of the plants. New beds may be made in the fall of three year old plants, from which a fair crop may be cut the second year.

CELLERY should be attended to; if the weather is mild and favorable it will be making rapid growth. Continue to earth it up as often as necessary. Should the weather be severely cold for the season, protect from its severity by boards, which may again be removed. It is not often necessary to take it up until November.

STRAWBERRIES.—Clean out the old strawberry beds, cut off all runners not wanted to increase, cover the bed partially with old leaves from the forest, mingled with a little of the muck from some swale, if convenient, or a slight topdressing of good compost.

## Selecting Fruit Trees for the Fruit.

During the county and state fairs, any one designing to plant orchards this fall or next spring, will have a fine opportunity to examine the different varieties of fruit on exhibition. Select just such as suit best, and take the names correctly; and here great care should be taken, for of all the fruit on exhibition generally at fairs, not more than three-fourths are named correctly; and where any doubt arises about the name, reject it unless you can apply to some one in whose judgment you can confide to give you the correct name. Be more careful to get medium or little above medium sized fruit; reject all large course grained fruit as unworthy. Select with especial reference to having a constant succession. You can raise upon a tree of any given size, as *many pounds* of medium sized, rich fruit, as you can of large, over grown, coarse grained fruit, which is not fit for swine. We were pleased with a remark of one of our friends while going through his orchard a few days since, in Oakland county. After passing and examining superior fruit of medium size, we came to a tree on which were very large, fair looking apples. Our friend plucked one and handed us, remarking that "it is the most saleable apple I take to the Detroit market, and is just a good as a pumpkin." It was a nameless variety, and, judging from its appearance, we thought he judged right as to its quality.

## Transplanting Trees.

It is impossible for any person to decide correctly whether planting trees in spring or fall is best. If the soil be a stiff clay, or one naturally cold or moist, we advise spring planting. If the soil be naturally light and warm, we prefer to set in the fall. We advise it to be done early, or as soon as the leaves are fallen, or the growth checked. Much more depends upon the way the work is done, than the time. The trees should be taken up with great care; if the roots are all taken up with the tree it needs no pruning, if they are not, cut off as much of the top as you suppose the roots were mutilated. Let the holes be dug large *not deep*. If on soil rather moist, dig no hole but place the tree on the surface and draw the earth up to it. Place the roots as near their natural position as you can, and with the hand fill in among the roots and cover them; then if the soil be dry, pour in a pail full of luke warm water, or if the soil be moist use no water, but gently press the earth around the tree and level off. If a wet soil make a mound around the tree which can be displaced in the spring. After the setling is completed drive a stake firmly near the tree and tie the tree to it loosely. Never put any manure among the roots of trees, but it may be used with great benefit around the tree after setting.

## Selecting Trees from a Nursery.

After having decided as to the varieties of fruit you wish in selecting the trees, get such as as have *low* well formed heads with a straight body, if such can be obtained. Those having a good sized or large round top will always have roots in proportion. The tree should have been judiciously trimmed

that the top may be a well balanced one. The branches should put out from one and a half feet to two and a half feet from the ground. Such trees will not be as likely to be injured by the scorching rays of the sun or the bleak winds of winter; and from such trees you may expect fruit two or three years sooner, and the fruit may always be gathered at about half the expense that it can in tall slim trees.

## The Apple Crop.

Since writing what we said in the September number of the *Farmer* about the apple crop, we have visited some five or six counties and several towns in each county, and rambled through more orchards than one. We find the crop on the average less than half. A large proportion of the apples are wormy, as much so as for several years. In many instances the late keepers are falling prematurely from the trees, and show signs of early maturity and decay. Apples are generally small; in many sections the drouth has been severe, and as we have in former numbers mentioned the death of apples, we repeat that but few orchards escape the death of some trees. In some instances the trees blossomed, fruit set, grew to three fourths of its usual size; the trees then died. We examined one in this condition, and found the bark discolored and dead entirely around the tree,from the ground upward eight or ten inches.

## Peabody's New Seedling.

BY JONATHAN HAUTBOY.

It is fortunate that no particular limit has been set to the size of new seedling strawberries, for if there were, a very great source of pleasure would be greatly diminished. Mr. Charles Peabody has had the good fortune to originate a new seedling by a cross of the Ross Phœnix upon a wild strawberry of Alabama. Out of hundreds of seedlings, this is the only one that has as yet rewarded him for his time and care. Hovey's Magazine has an engraving of it, and of course, the berries which hang from the footstalks are of extraordinary size upon paper. "Single plants," says Mr. Peabody, "have grown to such a size that a half bushel measure will not cover them." The fruit of this new variety—which, if really as described, must be very valuable—is said to be of the largest size, often measuring seven inches in circumference, of a peculiar and beautiful form; that is to say, if cut through from apex to where it joins the footstalk, the plane would be diamond shaped, with rounded corners. The flesh is firm, sweet, melting and juicy, and of the most exquisite pine-apple flavor. The color of the ripe fruit is a deep crimson. The vine is vigorous, and a hardy grower, and begins to bloom as early as the spring weather will permit. In the green house it fruits well even in winter. The character of the plant is hermaphrodite, and it is very prolific. On the ninth of last May, Mr. Peabody picked a case of the fruit, and carried them six miles in his buggy to Columbus; from thence to Savannah, they were sent by railroad 300 miles. The same fruit was sent by steamer to New York to the Messrs. Thorburn. These gentlemen on receiving the case seven days afterwards, stated that the berries had wilted down but very little up to that time." Mr. Peabody concludes his description by stating:—"I have had no little experience in strawberry culture, having devoted the last fifteen years of my life exclusively to that one object. And I say, that when we take into consideration hardiness, size, vigor, productiveness, beauty and keeping qualities, this is the most remarkable strawberry ever introduced."

## The Mathews Remedy for the Curulio.

We have endeavored to keep our readers posted as to the decision to which the committee might arrive, to whom was entrusted the examination of the Mathews remedy for the Curculio. There was no great noise made about the remedy by the discoverer. He entrusted it to the charge of the committee selected by the N. Y. State Agricultural Society. They have it still under trial. One of this committee, Mr. A. Fahnestock, now the President of the Toledo Nursery Association, wrote a communication to the Ohio *Cultivator*, favoring the remedy as a cure for the curculio. To this, Mr. J. J. Thomas, another of the committee, responds in the *Country Gentleman*, as follows:

The author of this communication says, "My faith in the remedy is still as at first, firm and unshaken, although some who have tried it were not successful, and this, no doubt, is to be attributed to their not having strictly adhered to the directions as given Mr. J. J. Thomas, on a sandy soil, was not successful." Again, "Messrs Williams and Thomas were two of the committee. The latter thinks the remedy will not answer for a light or sandy soil."

This quotation gives a mistaken impression of the results of the experiments made; and on account of repeated inquiries, and various errors in opinion in relation to the remedy, it may be proper to give distinctly the results, without disclosing the nature of the remedy which was imparted confidentially to the different persons who have tried it.

The writer was appointed in 1854, by the New York State Agricultural Society, a member of a committee of three to make a trial of the remedy, and he was afterwards furnished by A. Fahnestock with a full written description of the process and its rationale, so that it might be minutely and deliberately examined and referred to if necessary. The rationale was distinctly understood, and every part of the proposed process carefully observed. The following were a part of the trees submitted to its operation: A tree each of the Breda and Black apricot, a Boston, Roman, and Elruge nectarine; and a large number of plum trees, mostly the Imperial

Gage, Huling's Superb, Primordian, Columbia, Italian and German prunes, Morocco, and some others. The soil was mostly a light gravelly loam (probably the most unfavorable for the success of the remedy,) and in a few instances sandy loam. There was not enough clay in it to cause lumps or clods in the ordinary work of cultivation, nor to form cracks in drying, as often occur in a strictly clayey or heavy soil.

The Breda apricot stood in a much frequented place, and small crops had been previously saved by jarring down the insects on sheets and destroying them daily. The remedy was timely applied to this tree, and every particular in the instructions was carefully observed. For a time the results were in the highest degree promising; very few of the fruit were stung for a week or two after the performance of the process, and a heavy crop was expected. But in a short time the insects began to appear in large numbers, and a small portion only of the fruit which at first set and grew so finely, escaped them. It was discovered afterwards that one of the workmen on the place had daily shaken the tree when he began to discover the increased attacks of the curculio.

The tree of the black apricot stood on ground so situated as to admit a thorough application of the remedy. All previous crops had been destroyed, and not a single fair specimen had ever reached maturity. After the performance of the operation, the fine crop of young apricots were observed to be nearly untouched for a time, but subsequently were all destroyed without exception, before fully grown.

The same result was observed on all the nectarine trees, with which especial pains were taken to apply the remedy faithfully on account of their peculiar liability to attack, and on none of which a single specimen attained half the size at maturity.

Most of the plum trees admitted a satisfactory performance of the process, while with a few it was partially obstructed. The former exhibited a superiority for a time over the latter, in the greater freedom of their young crops from punctures. But like the other trees, they afterwards lost most of their crops, a very few specimens ripening on some of them, more especially on the German Prune and Imperial Grape, trees found more often to escape with their crops than the others.

The preceding statement furnishes the substance of the results of the experiments performed that year. Absence from home prevented a repetition of them the following year. But they could not have been performed in any better or more successful manner than they were the first season, when there was no omission of any portion of the remedy, as has been intimated.

The conclusions at which the writer has arrived from all the experiments, are the following:

1. The theory on which the remedy is founded is correct, and explains the efficiency of some other remedies previously in use.

2. The operation itself contributes largely for a time to the exclusion of insect; but being performed but once in a season, is not sufficiently long in the duration of its effects, to prove of much value alone, where the curculio is most destructive.

3. It is a valuable auxiliary; and in connection with the remedy of jarring on sheets, and the services of swine and poultry, all combined together, would probably save a crop on any kind of soil, and in the worst seasons.

4. In regions or in seasons where the curculio is but moderately destructive, it may, if applied singly, secure heavy crops, as is often done under similar circumstances by the remedy of swine, jarring and paving, where used separately.

5. That for a tree of ordinary average size, or with an extension of branches over a circle twelve feet in diameter, it will require at least half an hour (instead of five to ten minutes, as stated in the communication already alluded to,) to perform the work with "a strict adherence to the directions"

Perhaps it may not be out of place to remark in conclusion, that it seems a matter of regret that so useful an auxiliary should be withheld from the public, instead of being contributed towards the common stock of horticultural information, which we all desire to augment as much as much as possible, in the promotion of so useful and healthful an occupation as the culture of fruit. J. J. T.

## A Lawn Cutting Machine.

One of the chief difficulties of keeping a lawn in complete order is, that of having the grass cut often enough to make a perfect velvety sod. For some time past, we have noticed that English gardening papers contained descriptions and advertisements of hand machines, which cut upon the principle of the mowing machines, but which could be trundled round a little plot of fifty or sixty square yards as easily as a wheelbarrow, and would leave the grass plot smoother than the most skilful scythe-man could possibly cut it. Now we note that an ingenious Yankee has turned his head to the same species of invention, and of course, he improves upon the English model. Mr. Hovey has recently seen one in operation at Pine Bank, the country seat of E. M. Perkins, Esq., near Boston, and we quote his description from the September number of his Magazine.

Our recent visit here by invitation of Mr. Perkins, was to see the operation of Swift's Lawn Grass Machine, which was described in our volume of last year. It is an improvement upon the English patterns, which have been in use for some years, saving a vast deal of labor, and performing the work as well as the scythe, and better, unless in very skilful hands. The improvements, according to Mr. Swift, consist mainly in making the knives so adjustable, as to allow them to be ground and worn three-fourths of an inch; and so altering the form and construction, that small stones may do no material injury where the English knife would be rendered useless.

Mr. Perkin's machine, which is one of the largest size, was put in operation on h's beautiful lawn.—The grass was very damp after a shower the preceding evening, and did not cut as well as when dryer; for, unlike ordinary cutting with the scythe, when the sward should be moist, the machine works better when dry, as it does not clog up so readily, and the grass is thrown in the gathering-box better. A pony harnessed in, and taking the handles, we took a turn round the lawn, cutting the grass as smooth as a carpet, and cleaning it up as neatly as if it had been swept. It works with the greatest ease, though a little practice enables one to manage it better, and cut with greater rapidity, especially where there are trees or shrubs. With care the grass may be cut within a few inches of any tree or plant.

This excellent machine will save a great amount of labor, besides doing the work in such a manner as it is almost impossible to have it done, except where there is a gardener who has long practised cutting with the scythe, and it requires no little skill to do it well. With such a machine as Mr. Perkins's an acre may be cut in an hour! For amateurs, who have small lawns, one of the smaller machines that work by hand would answer every purpose, and working it would afford them the greatest pleasure. In truth, it approaches nearer to a toy than a labor-saving machine, doing the work of half a dozen men. We do not know of another of these large machines in our neighborhood, and we doubt not Mr. Perkins would be pleased to show its operation to any one who has the need of it, and would like to satisfy himself of its utility.

The knives may be so adjusted as to cut close or long; they are easily put in order, if by any accident they are broken, and the ordinary sharpening is effected simply by altering the gear so as to reverse the action of the knives or nippers: a few rapid turns backward puts them in the sharpest condition. The large machines cut a swath about three feet wide; the small or second size, about a foot wide.

We commend these machines of Mr. Swift's to all our suburban friends who have lawns of greater or less extent. The working of t em is a recreation; and the smooth carpet-like surface which they leave is so much superior to the old plan, that when once in use it will never be given up; the lawn is not only cut but rolled at the same time; and frequent cutting and rolling is the only way to secure a thick and constant verdure. It has been tried by H. W. Sargent, Esq., of Fishkill, N. Y., a gentleman who is well able to pronounce upon the quality of its work and its labor-saving capacities; and he allows Mr. Swift to refer any person to him who doubts of its performing all the proprietor asserts.

## The Peach Crop.

In the eastern and middle sections of the State, the peach crop, and the entire trees, to a large proportion, are dead, or so nearly so as to be worthless. When in Van Buren county, in the vicinity of Mattawan and Paw Paw, we saw trees loaded with peaches. We were also informed that in that county, from Paw Paw to the lake shore, the crop of peaches was good.

☞ We perceive that the executive committee of the National Fair have adopted a rule, by which judges are not to be guided by the fat, plump appearance of the animals, in judging of the merits of those entered in the breeding classes. This is a rule which should be adhered to in all State and County Societies, and we commend the subject to the attention of those who will act as committees on awars at our State Fair.

Scours in Sheep—The best remedy we know of for scours in sheep, is milk thickened with wheat flour. A pint should be given twice a day till the natural discharge stopped.—*Maine Far.*

# The Household.

*"She looketh well to the ways of her household, and eateth not the bread of idleness."—Proverbs.*

EDITED BY MRS. L. B. ADAMS.

## Help in the Household.

The hints given in the July *Farmer*, about providing help in-doors, are timely and much needed; and it appears to me that not half enough has been said on so important a subject; for this is the great stumbling-block in the way of Agricultural prosperity. Michigan does not produce cheese enough for its own consumption, because such help as is required for the business cannot be obtained. And every kind of farming operation comes short of what it would be from the same cause, so far as my knowledge extends.

But some women are unwilling to have help when it can be obtained. It may not be amiss for one who has tried this policy, to give the results of her own experience and observation. It is indeed unpleasant to have those who do not sympathize, and harmonize with the family, connected with it. But let not our views of the subject be confined altogether to the present time. A few years more of such excessive labor will lay the foundation of liver complaint, dyspepsia, or some other disease, which will render a continuance of your present exertions impossible. Then you will be surprised to see what advantage will be taken of your weakness to overrule your wishes. And if it is unpleasant *now*, how much more so *then*, when the salutary control is wholly thrown off, or can be only very feebly exercised. Now, you may assert a partial independence in being able to do without help a part of the time, or till you can be suited, and those whom you hire will not be slow to perceive your advantage, but when it is felt that you are in their power yourselves can guess the result.

If you employ help while you are yet able to labor, instead of waiting till sickness compels you to do so, a great saving will be made in those little finishing up chores which you will do, and which though very necessary are very apt to be neglected by your assistants; and taking hold to do a little will prevent the discouragement, and giving up of ambition and exertion, which some are liable to manifest. And when the long wear of household utensils, or the saving of fragments, is effected at the expense of health and constitution, it is but a short sighted economy. At all times, the influence of a patient, kind and enlightened woman is of more value toward producing order and comfort throughout the household than anything else; therefore it is best to employ assistance while yet you are able to be an example. To those who have daughters, it

may be said that they are the very best help, if properly trained, both in overseeing, and executing, and this exercise is calculated to enlarge and strengthen their understandings more than almost anything else; and to give them that practical effectual character which alone can fit them for usefulness in life.

And here I have a mind to put in a few words for the *young* ladies. I have many times paid my visits to families, where, though there were daughters, the mother looked as careworn as though there were none. And when with her own hands she brought in her tea, with a sad and exhausted, though kind look, while her daughters seemed not to see what was to be done, I felt willing to have exchanged the sumptuous repast for crumbs and milk if it would have shed a brighter ray of happiness over the mother's heart. And I have no doubt but many a young lady has had to mourn the loss of a mother, who would not have done so, if she had done what she could to save her mother's strength in time to prevent the attack of disease. And what a thought that is, to be left as a canker worm on the mind in such a trying affliction; that her own thoughtlessness and inattention had accelerated the downward passage of a beloved parent to the grave.

At other times, I have been in families where the daughter seemed to understand every part of the household arrangement, and the mother wore such a fresh young look as plainly showed she had not carried the heaviest burdens of life alone. And when her "sweet smiling daughters" would add their company and conversational powers to the general entertainment, my enjoyment of the visit was greatly increased. And when with light step and pleasant air they spread the repast, new relish was added to the viands. Such a family, where all are employed, but none overburdened, where each one has leisure for improvement, but none are idle, dissipated, or burdensome to the rest, is one of the pleasantest scenes ever exhibited in this world.

But after our resources have all been exhausted, there is still need of more help for farmers both indoors, and out, and more systematic measures should be adopted to furnish a supply. A few years since the idea was suggested that if farmers would build houses to rent in the same way as is done in cities, and by factories, they would soon be filled with a laboring population. And why should not farmers make renting as profitable in proportion to the chances for business as any other class of men? Less capital would be required to make a decent country residence than is laid out in cities for the same purpose. The objection most commonly urged is the probability that families of objectionable character would be introduced. But if your neighbor farmer sells, out there is always danger that an unpleasant character will take his place, and in every addition to our population there is some danger that it will be unpleasant; yet few are willing to live alone in the world for such a reason, and such danger could not be increased when farmers had the control in their own hands, and would keep out or let in whom they pleased. Density of population is what increases the value of property; without it lands must have but an insignificant value; so that in offering benefits to others, the farmer would receive benefit himself. The poor are not necessarily mean; on the contrary many true, good hearted citizens, who would appear to good advantage in the sunshine of prosperity, adorn their ranks; and the kind offices of a neighbor are none the less acceptable, because that neighbor is poor, and these poor neighbors more frequently do good offices, for the reason that they are less engrossed with their own business.

But the character of the dwellings furnished for laborers will go far to decide the character of their occupants. It is desirable that those who should be introduced should combine as much industry, economy, and respectability, as can be obtained, and to such persons homes combining the greatest amount of economy, with comfort and respectability would be a great inducement. It should therefore be a study among farmers how to arrange these little homes in a manner best calculated to secure cheap comforts and pleasures, and render them inviting to those who want nothing but a chance to make them agreeable and useful. While we look at the influence of other circumstances, it should never be forgotten that the common schools are our greatest reliance for the morality of all our population, and no pains should be spared to render them as influential for good as universal in their privileges. Every farmer should realize that the prosperity of common schools is intimately connected with his own prosperity.

In conclusion, I will only add that a residence has been held to rent by a member of our family, not a model one, but such as circumstances allowed, and has been proved the means of relief from burdens otherwise too heavy many times, during the five years it has been so used. One year it was let to a mechanic, instead of a laborer, and we paid dear for the exchange. It would have been well, had there been dwellings for both. But no vicious family has occupied it, and no difficulty has been experienced in getting well disposed neighbors to occupy it.

C. D.

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*Answers to Enigmas.*—No. 9, UNCLE TOM'S CABIN; No. 10, WASHINGTON. Answered by G. D. M., Romeo; G. C., Augusta; Sarah C. Weed, Texas, Mich.; Sarah E. Brunson and Hattie B. Victor; A. A. B., Milford.

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*Answer to Enigmatical Charade.*—ROMEO. Answered by A. A. B., Milford J. W. Webster, Napoleon.

## Letter from a Farmer's Daughter.

DEAR FARMER :—Having read numerous pieces in your Household Department from farmer's daughters, I thought I could write something that would be interesting. I remember when I was a little girl and lived far awsy from here in the city, I thought what a nice thing it would be to live on a farm, to raise chickens, ducks, geese and turkeys, and take care of them all myself. I had never seen any geese at that time, but had heard a great deal about them. One day to my great delight I was told that we were going out west, to Michigan, to live on a farm ; and fancy pictured a beautiful place with a nice house, large barns, and orchards, pastures of sheep, cattle and everything which would make a model farm. So we came and settled in the woods. I was disappointed, but father told me we would soon have a nice place. I forgot my disappointment when the chickens and other fowls came, in hunting nests and raising poultry. Father built a log house and made us comfortable; and we made a nice flower garden, and brought vines and flowers from the woods to ornament our house, as we said, (that means to cover the logs, Dear *Farmer.*) We planted peach and plum stones, and set out apple trees, and things began to look cheerful. But years have passed now ; we have nice barns and a good house, the trees have grown and bear finely, in fact it is something as I once anticipated; and now as I raise my eyes from the paper on which I am writing, and gaze on the pleasant fields and pastures with cattle, horses and sheep grazing so quietly and happily, and all looking so cheerful through our industry, I do not regret coming into the woods and enduring a few privations. I feel it truly a good thing to be a farmer's daughter. I known that they can be as carefully trained as any others ; and now I would say to those just commencing, do not get discouraged; what if you are obliged to endure a few privations ? Do all you can to make it cheerful, and in the end you will be doubly repaid for your labor. AMANDA.

*Lepeer, Sept.* 15, 1856.

☞ It is encouraging to receive from farmers' wives and daughters, such letters as the two we give to our readers this month ; and when such are willing to speak, we are glad to step one side and give them room. The advice and suggestions of "C. D." are well worth the serious consideration of housekeepers, and husbands too. Farmers give far too little attention to the subject of domestic help, hence so many weakly, worn-out wives, and so many families of children left prematurely motherless. We hope to hear from C. D. again.

Amanda is very welcome. We know that Michigan has many just such happy homes, and cheerful-hearted girls, who could, if they would, prove that farmers daughters are not all ignorant, gossiping and thoughtless, as some would have it believed they are.

DRED; A TALE OF THE GREAT DISMAL SWAMP; *By Harriet Beecher Stowe; published by Phillips, Samson & Co., Boston, and for sale by Raymond & Selleck, Detroit.*

The writer of Uncle Tom's Cabin could not publish an unreadable book; and even were the pen which she wields less vigorous, and her own genius less powerful and self-reliant than it is, the materials furnished by the theme she chooses are of a nature to awaken an interest in the public mind beyond any thing ever created in the world of fiction. There are realities in the life she describes more startling than the wildest dreams of romance, and daily and life-long scenes of martyrdom as cruel as any ever perpetrated by the blindest superstition and the most relentless bigotry.

The interest of Uncle Tom's Cabin turned mainly on the suffering caused by the separation of families, and the absolute power of masters and overseers over the human beings held in bondage; the present work, embracing all this, gives still another view of the degrading effects of slavery in its influence upon the poorer classes of white people. DRED, the character whose name is given to the book, does not seem to us to be properly the hero. He is a half wild, half crazed, outlawed fugitive, who has taken refuge in the Dismal Swamp, and there rescues and shelters other fugitives who may be so fortunate as to elude the pursuit of masters and blood-hounds. In the course of the narrative he renders essential service to some of the principle characters, but altogether, he seems to us overdrawn and unnatural, and there is such an air of improbability about many of his saying and doings as seriously to disturb our faith in his existence, except in the author's brain. Old Tiff, on the contrary, is a perfectly natural character, a dear, simple-hearted, faithful old creature, whom every body will recognize and love, and whose ultimate success gives the work one of the sweetest charms it possesses.

All the lighter scenes are drawn with a vividness and dramatic power peculiar to the authoress and to the tropical temperament of her character; and the theological, political and judicial views and discussions given are such as to lay bare the worst features of the institution whose workings she labors to expose, and to show how much of what is there called *right* depends on *might* alone. She gives a true picture, dark and gloomy as it is, of the utterly hopeless condition of the poor white people, their despised and degraded lives, their heathenish ignorance, and their servitude, worse than that of lawful slavery. In reading the book, the idea strikes us that the contrast between rich and poor is too great; that the author has drawn upon extremes and given us the brightest and darkest tints without the intermediate shading; and there comes up an involuntary wish that she had portrayed the medium phase, or given us a view of poverty less degraded and debased among those of our own color. But the fact that, so far south as where the plot of this work is laid, *there is no medium c'ass*, that wealth and respectability, poverty and degradation, are synonymous terms, and that they must continue so while slavery in its present form exists, forces upon us the conviction of our author's fidelity in representing things as they are. And, indeed, the brightest pictures she gives, or that can be given of such a community, are darkened, inevitably, by the saddest of all back-ground tints—"man's inhumanity to man." But "DRED" (we wish it had some other name,) is not altogether a sad book. It has passages of tearful and thrilling interest, interminglod with the most pleasing and lively scenes, abstract legal and theological dis-

cussions, exciting trials, Lynch and otherwise, and here and there a page of comic drollery through which beams out in native coloring the genuine humor of the African race.

It is a book which will chain the attention of all classes of readers, and draw them on with an absorbing interest to the end; but we doubt whether, after all, simply as a story, it will stand as a rival in the hearts of the lovers of Uncle Tom.

## Johnny Gray.

I'm a little farmer boy,
My name is Johnny Gray;
And I can plant potatoes,
And help to raise the hay.
I go to bed at sundown,
And rise at peep of light;
I drive the cows to pasture,
And home again at night.
I'm trying to be useful,
In every way I can,
And growing from a farmer boy
To be a farmer man.
I go to school in winter
And learn to read and spell,
And everything I undertake
I try to do it well.
Then all around will love me,
And other boys will say,
"Let's all be good so we'll be loved
Like little Johnny Gray."
And when I'm old and helpless,
As some day I may be,
Perhaps some little boy will climb
To sit upon my knee.
I'll show him then how patient
I'll bear the weight of years,
I'll smile upon his merriment,
Or wipe away his tears.
He'll put his arms around me,
And I shall hear him say,
"When I grow old I want to be
Like dear old Johnny Gray."

☞ We are glad to see a little more ingenuity manifested by the youthful correspondents of the Household in making up their puzzles. They are improving also in their writing; and we must again request them to take special care in making their figures; 7s are so easily mistaken for 9s, 3s for 5s, &c. This was the way the errors occurred in the enigmas of Frankie and Theressa last month. The printer and proof-reader were, doubtless, not as careful as they should have been, but we shall try to avoid these blunders as much as possible.

## Enigma No. 11.

I am composed of 18 letters.
My 1, 16, 10, 5, is what we do not like to do.
My 8, 6, 16, 8, 12, is very useful.
My 5, 7, 18, is what we must do to solve enigmas.
My 11, 16, 12, is a domestic animal.
My 1, 2, 3, is a common noun.
My 7, 16, 10, 15, is useful sometimes.
My 17, 14, 4, 2, is a very pretty flower.
My 3, 16, 11, 14, is a manufacturing town in Maine.
Erase my 14, transpose the rest, add on my 4, and you have a county in Michigan.
My whole is what ought to be in every house.

*Victor.* SARAH E. BRUNSON.

## Floral Anagrams.

1. L, whip the ox.
2. Turf owl temper.
3. A queer pie, north, fie.
4. Lead Nero.
5. Love it.

*Locust Grove.* EMMA.


# MICHIGAN FARMER.

ROBERT F. JOHNSTONE, EDITOR.

## DETROIT, OCTOBER, 1856.


### State Fairs for 1856.

| | | |
|---|---|---|
| Michigan | Detroit | Sept. 30 & Oct. 1—3 |
| New York | Watertown | Sept. 30 & Oct. 1—3 |
| Illinois | Alton | Sept. 30 & Oct. 1—3 |
| Pennsylvania | Pittsburg | Sept. 30 & Oct. 1—2 |
| Kentucky | Fair's | Sept. 30 & Oct. 1—5 |
| National Agricultural Show | Philadelphia | Oct. 7—11 |
| California | San Jose | Oct. 7—9 |
| Wisconsin | Milwaukee | Oct. 8—10 |
| Iowa | Muscatine | Oct. 8—10 |
| New Hampshire | | Oct. 8—10 |
| North Carolina | Raleigh | Oct. 14—17 |
| Indiana | Indianapolis | Oct. 20—25 |
| Georgia | Atlanta | Oct. 20—25 |
| Maine | | Oct. 28—30 |
| North Kentucky | Florence | Oct. 7—11 |
| Connecticut | New Haven | Oct. 8—10 |
| Alabama | Montgomery | Nov. 11—14 |

### Michigan County Fairs for 1856.

| | | |
|---|---|---|
| Livingston | Howell, | Oct. 8 9 & 10 |
| Ingham | Mason | Oct. 14 & 15 |
| Branch | Coldwater | Oct. 7 8 & 9 |
| Kent | Grand Rapids | Oct. 14 15 & 16 |
| St. Joseph | Centreville | Oct. 13 & 14 |
| Macomb | Armada Corners | Oct. 9 & 10 |
| Oakland | Pontiac | Oct. 15 16 & 17 |
| Eaton | Charlotte | Oct. 15 & 16 |
| Allegan | Allegan | Oct. 8 & 9 |
| Calhoun | Marshall | Oct. 7 & 8 |
| Jackson | Jackson | Oct. 8 9 & 10 |
| Washtenaw | Ann Arbor | Oct. 7 8 & 9 |
| Shiawassee | Corunna | Oct. 8 & 9 |
| Monroe | Monroe City | Oct. 8, 9, & 10 |

### The State Fair.

All the arrangements are perfected for the State Fair, to render the accommodations between the city and the grounds as pleasant and cheap as possible. Steamboats will be run at the rate of sixpence each way for each passenger. This is cheaper than persons could procure a conveyance to take them from the city to the grounds in former years. The route also is by water, and will be found an agreeable and short trip.

The show of horses, and the trial of their traveling qualities, is calculated to call forth a large attendance. Every care has been taken to render this trial, a fair and even handed test. The discussion on the action of the horse committee last winter, in the Farmer, has done much good, in showing how important is the decision of a committee representing the State Agricultural Society; and also, how careful the committee should be, that no oversight or injustice be done. This applies to all the committees, but more particularly to those who make the awards on cattle and horses. At the present time there are many attempts being made to lay the foundation in this State, of good breeding herds of cattle, and to introduce superior mares and stallions, to improve the horses in size, action and endurance. Due notice should be taken of all who are spirited enough, not only to make investments of this kind, but also to bring their stock to the fair. The committees should not be hurried; better to delay the awards for twenty-four hours, than to have them announced so that they

will not be respected, or will cause the society's decisions or premiums to be considered of no value as tests of merit.

## The Fair at Tecumseh.

The farmers of four towns in the northern part of Lenawee county, held a fair at Tecumseh on the 11th of September. The fair lasted one day, and was very fully attended, between 2500 and 3000 persons being present. The fair was held in a very beautiful grove, a few rods only outside of the village. Here, under the trees, which had been cleared only from that portion of the ground occupied as the way for horses, we found a display of implements, of cattle, sheep, hogs and horses, which was very creditable to the district. The show of horses was very spirited.

The building erected for the display of domestic manufactures and fruits, was well filled, and during the day was crowded with visitors, who were received by the ladies in charge of the several departments, with the utmost courtesy and attention. The needlework, flowers and other ornamental articles, elicited a fair share of admiration. The fruit, however, in this building, struck our fancy as being remarkably fine. There were a large number of specimens of apples, of various kinds, and all had a clear, healthy, vigorous bloom, and a completeness in form which evinced vigor in the tree, and a soil adapted to their growth.

The number of entries altogether exceeded five hundred. The number of implements on the ground was large. The cattle exhibited were mostly of native stock, and as such were as good as any shown. There were no first rate Shorthorns exhibited. Some good Devon stock was shown, and also some very good grades. Our friend Mr. Richards, of Raisin, had a good grade bull, and some Devon and grade cows, which were superior. He also exhibited four very thrifty calves, all of which had been brought up by hand, and never had been allowed to suck their dams. There were also some very good specimens of milk cows, and several well formed, well trained yokes of oxen. Among the curiosities of the cattle kind, were two oxen belonging to Mr. Rappleye of Ridgeway. One of these was an immense elephantine beast, of the largest frame we ever saw. From the points of the shoulder to the ground, his heigth must be between nine and ten feet. He was very lean. Indeed from his conformation, we should judge it would be no easy matter to get a coat of flesh upon this animal. His chest was too narrow for his immense frame, and only food cooked, and of the most concentrated kind would avail. Corn meal, oil cake, ground peas and beans, with the best of hay, and turnips cut and cooked to aid digestion, would be of service. He is a sight, and would make a capital show, if only in a fair condition.

The horses shown were very good. Old Post Boy, Bussorah Morgan, Toronto and a colt whose name we did not learn, were among the blood stock. Some of the mares and foals were good, but none very superior, either in action or general appearance. The show of matched horses, was the best. Mr. Rappleye had a pair of bright bays well matched well groomed and well broken, and of remarkably good action. Mr. Richards had also a pair of large chestnut colts which give great promise. There were also six or seven other matched teams, of great beauty and fine action, which did the owners much credit. We did not learn the names, our time being very short, and our acquaintances being fully employed in performing the duties assigned them as committee men. The competition was brisk for the premiums, and we were highly pleased with the general spirit which prevaded all who visited or took part in the fair. The whole proceeding being confined to one day, and this fair being the first held in the village, it necessarily made a large amount of business to be done in a short time. The exertion of the president, Dr. Patterson, and of the Secretary, B. L. Baxter, Esq., together with members of the several committees, was unceasing. But the success which rewarded their efforts to have the fair a source of enjoyment and instruction, repaid them.

To Dr. Patterson, the president of the society, we are indebted for much kind attention. During our stay, he afforded us an opportunity of seeing the rich country around Tecumseh. He himself cultivates a most noble farm of some 150 acres within a mile of the village. On it there is an extensive orchard of some sixty varieties of apples. This number of kinds Dr. Patterson thinks is too great for profit, and he is of opinion that were the varieties in his orchard reduced to twenty good choice sorts, it would be quite sufficient. There is such a difficulty in preserving so many kinds separately, and as they ripen and decay at different times, if not kept separate, one apple of a wrong sort may spoil a whole barrel of the best winter keeping fruit, if left among them. Dr. Patterson has lately built a very elegant mansion in the village, which he is about to surround with grounds laid out appropriately, as soon as time will permit. There are several other new and very tasteful residences recently erected in Tecumseh, and which were pointed out as evidences of the wealth and business belonging to the place. Among the buildings now going up is a large and handsomely designed Union School house. The basement of this building is about completed, and the walls are going up with all speed. This structure will be a very splendid building when completed, and the design evinces a most commendable public spirit upon the part of the citizens of Tecumseh.

ANOTHER REAPER.—Arvine C. Wales, of Massillon, Ohio, has invented a reaper that possesses the merits of our best machines, with *binder added.*

## Fall Work.

There are several divisions of farm labor that can and must be done during the fall months. With the beginning of October all the fall seeding has been done. It is true, the corn has not been secured; nor are such crops as turnips, potatoes, or carrots as yet put away for the winter. But they can be whenever they are ready. This, however, is not the work to which we would refer. There are but few farms in Michigan which have not some swamp or bottom lands which need draining. These swamp or marsh lands contain muck, or marl, or peat; but before either can be reached, the water, which renders them spongy, must be got rid of. Teams cannot be used upon them until they are drained, and now is the time to open up ditches by which the water may be conducted to some natural outlet. As soon as this is done, the material is within reach which ought to be filled up on the sandy and hungry gravels and light soils of the uplands. There is not a day of fair weather during which the the teams on a farm need stand idle, or ought to be unemployed, previous to the frosts, while there is this kind of work to be done. It is labor applied at this time in the right direction which brings wheat and other crops to that kind of perfection which fills the pocket book.

Another division of work which ought to be attended to forthwith, is the preparation of shelter for the stock; cattle, sheep, and hogs ought all to be provided for. Not an animal should be kept on the farm that cannot be kept growing, so that it shall repay for the food it eats, and the work expended in taking care of it. In preparing for the winter, therefore, one of the first calculations to be made should show the amount of food which may be depended upon to last rom December till June, and also the number of head and kind of stock which can be supported upon it. Every animal which is retained, over and above this number, is kept at the expense of all the other stock, and besides not being itself itself profitable, is rendering the stock unfit to commence work in the spring; or what is equally as bad, making the the fatting and growing stock unsaleable at the very time they should realize the highest prices. Select out what stock you are able to keep, and be sure that you save to winter over the best and most thrifty, either for work, for the dairy, or to feed.

Again, we deem it a very important part of the duty of every farmer to be sure that all his animals are in a good hearty condition when taken from the fields. It is too much the custom to let both sheep and cattle remain too long in the half frozen pastures with no other dependence, at a time when shortness of food is severely felt, and before they have become accustomed to the severe weather. We have not the least doubt that more animals lose flesh, or are made poor for all winter, between the first of October and the middle of January, than at any other season. One of the most important points in the system of feeding adopted by Mr. Samuel Linden, of Canton, was that of bringing his stock into the winter months in a growing condition, and keeping them going ahead.

At this season the pastures, though they may present a good bite of grass, are very far from being nutritious. The grass when eaten is frequently cold or half frozen, and so full of moisture that an animal is easily filled, but even when full is far from being fed. The nutritious properties of the grasses also, even of the very best kinds at this season, are almost entirely lost, and the same weight of grass or clover as usually eaten by sheep and cattle, in the early morning, is hardly equal to as much good oat straw. Yet how many young cattle are left to pick their living from such pastures, while their owners complain in the spring that their steers have not wintered well, or that their calves have not grown, or that their sheep are poor, and their lambs so light that the butchers offer little or no price for them. Lean, half-fed ewes will not raise fat lambs, but yet it is fat lambs which are most profitable to sell to the butcher.

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Messenger Stock.—We take pleasure in calling the attention of horsemen to the communication of E. N. Wilcox, Esq, giving the pedigrees of his Messenger stock. The large mare called Mason's Madame, is certainly a most extraordinary animal, for size, action, and general appearance. Her colt, which we saw when only a few weeks old, was even then marked by a largeness of form, and a development of joints, which gave great promise. Mason's Madame, on both sides, has the old Imported Messenger for great grandsire, showing full a quarter blood, or but one remove from old Messenger. Her colt, Abdal'ah Capax, by the sire, is therefore three-sixteenths Messenger, and by the dam one-fourth, or altogether seven-sixteenths. This would make him but lacking a sixteenth of being a colt of old Messenger. This is close work, especially when it is noted that old Duroc and Decatur also infuse their blood into this colt at only two or three removes.—We hope Mr. Wilcox may have the good fortune to raise this stock of his for the benefit of the breeders of horses in this State.

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## A New Candidate for the Stud Book.

It will be remembered that we chronicled last winter the death of Jackson, a stallion of most excellent pedigree, and the property of F. E. Eldred, Esq., of Detroit. Mr. Eldred was so highly pleased with Jackson and his stock, that since his death, he has been looking out for a horse of the same stock, and whose blood would be equally good. We now learn that he has purchased *Wild Dayrell*, a colt

two years old, and for which a pretty round sum was obliged to be given. The pedigree of this fine young horse is as follows:

*Wild Dayrell*, two years old, June 14, 1856. Bred by Isaac Akin of Purgatory Farm, Dutchess county, New York. Sired by Kemble Jackson, who was out of Fanny Kemble, by Andrew Jackson, got by Young Bashaw, who was sired by the imported horse Grand Bashaw. The dam of Andrew Jackson was got by Whynot, who was sired by imported Messenger.

The dam of Wild Dayrell, is Lady Moore, out of Messenger Maid, sired by Mambrino Paymaster, he by Old Mambrino, who was out of Imported Messenger.

Mambrino Paymaster was the sire of Lola, Mambrino Chief, Goliah, and other horses of much note.

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OLD POST BOY.—This venerable old racer, who, at one time, was a celebrated traveler on the course, is now located near Tecumseh, in Lenawee county. We saw him at the Northern Lenawee county fair. He seemed as spry and full of mettle as he had ever been, though apparently rather sober in his general demeanour. He showed his agile springiness by sending his hind feet some ten or twelve feet in the air when any of the other horses came within striking distance, and, in one of his lashing out spells, struck a gentleman very severely on the thigh, but luckily the bone was not broken. This horse once sold for $18,000 ! ! !

Wm. T. Porter, in the second number of his new "*Spirit*," refers to a paragraph which states that the race horse Lexington, which has been sold for $15,000 is the highest priced horse ever sold in the United States, and contradicts the statement in this fashion, referring, at the same time, to Old Post Boy: "It is probably true that Lexington has been sold by Mr. TenBroeck for $15,000, but the idea that this is the highest price ever paid for any horse in the United States, is not only preposterous but ridiculous. Delivered here, imported Priam cost over $25,000 Rodolph sold for $18,000—yes, Rodolph, the humbug! Monmouth Eclipse sold for $14,000, and was worth about twenty shillings. *Post Boy*, who was the northern champion, and ran against John Bascombe (getting jolly well beaten) was sold for $18,000. Neither he nor Bascombe were worth 'shucks,' and neither has been the sire of a winner fit to run for sour butter milk. At the time of their death, Bertrand and Medoc would have brought respectively $65,000 each. Shark and Medley sold for $10,000 each, and the former, when aged, got Mariner, half brother to Fashion, the other got nothing. The first was originally worth, as a stallion, twenty shillings, and the second not the cost of the powder and shot that would kill him."

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☞We have received a letter from a firm named J. J. Mann & Sons, of Westville, Laporte county, Indiana, asking us to correct a report of a trial of reapers, which we copied from the *Valley Farmer*, of St. Louis, Mo., and duly credited to it. In the first place, the Messrs. Mann & Sons have no right to call upon us to make such a correction, as the report was not made by us; and, in the next place, we would suggest that, as they do not advertise their machines with us, we are not called upon to report their premiums or advertise for them by publishing the corrections of other people's blunders.

☞J. W. M.—The letter from Illinois, giving a description of farming among the Suckers, is well worth a perusal, and if our correspondent has any "more experience of a like nature" we shall be pleased to hear from him again. Not that we feel induced to swap off our clay fields for his fertile prairie soil, but we are always pleased to learn the practice of the farmers of other States.

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THE DIOSCOREA.—We observe that a memorandum of the London Horticultural Society's garden, published in the *Gardener's Chronicle* of August 23, says: "The Dioscorea Batatas, planted without having been previously raised in heat, is being tried here again this year, and so far, with perfect success. Large whole roots, cut sets, and small tubers about the size of peas, have all been planted. The plants from the whole roots are considerably the largest, those from the cut sets next, and the smallest of all are those from the pea-sized sets. All of them are on ridges. The tops are not staked, but allowed to ramble about as they please."

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A FRENCH NURSERY.—We call attention to the advertitement of Andre Leroy's nursery. This establishment is one of the best in France, and has been largely dealt with by American fruit growers. The New York agent, Mr. Bruguiere, will attend promptly to all orders.

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☞We have on hand a very interesting communication about "hair snakes" from Justus Gage, of Dowagiac, which was received too late for this number. We commend it, when published, to the attention of naturalists.

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☞In Sweden, the floors of stables are made of planks perforated with holes, so that wet will not lodge in them—the bare boards being the only bedding allowed. To this treatment is attributed the soundness of the horses' feet, as it is quite unusual to meet with a lame or foundered horse in Sweden, where the horses have been so stabled. This practice commences with the foal, and is considered to promote cleanness of the feet.

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☞We notice that a Mr. John W. Kingsman, of Dover New Hampshire, has got up an invention by which the four teats of the cow can all be milked at the same time. India rubber pipes and the air pump are the basis of this new "kink" for saving time and labor. This invention seems plausible, and worth a trial, at any rate. It is not yet patented.

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THE QUARTERLY REVIEWS.—The *Quarterly Reviews* published by Messrs. Scott & Co., are the cheapest series of standard literature in the country. For information on politics, literature, science, the arts, and profound criticism, these republications are unrivalled.

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THE POTATO DISEASE.—We notice that the potato disease has again broken out with some virulence in Great Britain, and that it has been observed to spread in some localities, with great rapidity, after thunderstorms. Professor Lindley, however, combats the proposition that electricity is the cause.

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AN OLD OAK.—An oak tree, planted near Chatillon-sur-Seine, in France, by a count of Champagne, in the year 1070, was destroyed by a thunderstorm last July. This tree was supposed to be one of the oldest trees in Europe.

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☞The Secretary of the Tennessee Agricultural Society is anxious to introduce into that State Devon cattle. Those who have Devons of good quality for sale may address T. Fanning, Franklin College, Tennessee.

## Market.

The rates of produce remain about as quoted last month. The foreign demand for wheat and flour at New York has been light. The accounts of the crops in Europe are favorable. Although not so favorable in the South of England since the harvesting commented, there having been heavy rains, just as the grain got ripe, and there are loud complaints of want of help to secure the crop. The potato season has also broken out with some virulence. The rates both in New York and Liverpool are unchanged, with but little movement in grain for the present.

Flour is at $6 00 to $6 50 per bbl. Wheat is selling here at $1 25 for the best samples. Corn at 50 cents Oats at 35 cents. Barley is worth $1 75 to $1 87½ per 100 pounds. Butter sells at 20 to 22 cents Cheese 12 cents. Eggs 18 cents per dozen. Beef and mutton are more moderate, but there is little change in price since the quotations of last month. Seeds remain as then quoted. Wool keeps firm at the rates given last month. There have been but few sales in this market.


# Clarke's Female Pills.

## *THE GREAT ENGLISH REMEDY.*

*Prepared from a Prescription of Sir John Clarke, M. D. Physician Extraordinary to the Queen.*

THIS invaluable medicine is unfailing in the cure of all those painful and dangerous disorders to which the female constitution is subject It moderates all excess and removes all obstructions and a speedy cure may be relied on.

## TO MARRIED LADIES

it is particularly suited It will, in a short time, bring on the monthly period with regularity.

Each bottle, Price One Dollar, bears the Government Stamp of Great Britain, to prevent counterfeits.

### Caution.

These Pills should not be taken by females that are pregnant, during *the first three months*, as they are sure to bring on *miscarriage;* but at every other time and in every other case, they are perfectly safe.

Sole Agents for the United States and Canada,

I. C. BALDWIN Co.,
(Late J. Bryan,) Rochester, N. Y.

TUTTLE & MOSES, Auburn, General Agents.

For sale in Detroit by J. S. CUTHBERT & CO., FARRAND & WHEATON, T. & J. FINCHMAN, M. M. PECK, GEO. B. DICKENSON & CO., E. C. TERRY, and in one Druggist Store in every town in the United States.

Oct. 1st, 1855. 6m

## THE CELEBRATED NURSERIES
OF
## ANDRE LEROY,
AT ANGERS, - - - - - - FRANCE.

MR. ANDRE LEROY, member of the principal Horticultural and Agricultural Societies of Europe and America, and lately promoted by the French Emperor to the rank of Knight of the Legion of Honor for the best nursery products exhibited at the World's Fair, held in Paris, begs leave to inform his friends and the public that he has just published his New Catalogue for 1856, being more extensive and complete than that of any similar establishment on the continent. It contains the price, &c., of all the Fruit, Ornamental and Evergreen Trees, Shrubs, Roses, Camellias, Stocks, Seedlings, &c., &c., with the necessary information for importing the same. His experience in putting up orders for America, and the superior quality of his plants have been too well appreciated during a period of ten years to require further comment. The Catalogue can be obtained free of charge on application to the undersigned Agent, who will also receive and forward the orders. Mr. A. Leroy is happy to state that his Nurseries were not reached by the inundation which so recently devastated a portion of the district in which they are situated.

Oct24 ANDRE LEROY, Angers.
F. A. BRUGUIERE, Sole Agent,
137, Pearl Street, New York.

# PUBLIC SALE OF PROPERTY.

WISHING to change the following property into other stock, on Saturday the 25th day of October next, I shall offer to the highest bidder, at my residence in Canton, one span Brood Mares, one six and the other seven years old, one span Work Horses, matched; two Cows, one now in milk and the other to come in for an early Winter Cow, two sett of double horse harness, partly worn, one buggy, partly worn, and one two horse wagon partly worn.

Sale to commence at 12 M.

☞ I will also exchange one span two year old Horse Colts, matched, for Sheep. SAMUEL LINDEN.

Canton, September 1, 1856. 2t

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*Publish the following Books for the Country, And will send them, Free of Postage, to any part of the U. S., upon receipt of Price.*

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| 58. | Saxton's Rural Hand Books, 3 vols | 3 75 |
| 59. | Bement's Rabbit Fancier; paper 25 cts., cloth | 50 |
| 60. | Reemelin's Vine Dresser's Manual | 50 |
| 61. | Neil's Fruit, Flower, and Vegetable Gardener's Comp'n. | 1 00 |
| 62. | Browne's American Poultry Yard | 1 00 |
| 63. | Browne's Field Book of Manures | 1 25 |
| 64 | Hooper's Dog and Gun | 50 |
| 55. | Skillful Housewife, paper | 25 |
| 66. | Chorlton's Grape Grower's Guide; paper 50 cts cloth | 60 |
| 67 | White's Gardening for the South | 1 25 |
| 67. | Eastward's Manual for Cultivating the Cranberry | 50 |
| 63. | Johnson's Dictionary of Modern Gardening | 1 54 |
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| 71. | American Agriculturist, 10 vols | 12 50 |
| 72. | Boussingault's Rural Economy | 1 25 |
| 73. | Thompson's Food of Animals; paper 50 cts., cloth | 75 |
| 74. | Richardson on Dogs—their Origin, Varieties, &c; paper 25 cts, cloth | 50 |
| 75. | Liebig's Familiar Letters to Farmers on Chemistry; paper 25 cts., cloth | 50 cents |

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MANSFIELD'S Patent Clover Hullers. Crawford Patent Clover Hullers. A multitude of testimonials attest the great value of the above machines. H. D. EMERY, & CO.,
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CLOVER HULLERS & CLEANERS, different patterns.
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## FRUIT AND ORNAMENTAL TREES

*ELLWANGER & BARRY* have the pleasure of announcing to their customers and the public in general that they have now on their grounds for the ensuing fall trade, a very large and complete stock of Fruit and Ornamental Trees, embracing

Standard and Dwarf Apple Trees.
Standard and Dwarf Pear Trees.
Standard and Dwarf Cherry, Plum, Peaches, Apricots, Nectarines, &c.
*Quinces*—Large Orange, fine grafted plants.
*Gooseberries*—Of the best sorts, a large stock.
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Besides Walnuts, Chestnuts, Filberts, and all other fruits usually cultivated.
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## Ornamental Trees, Shrubs, &c.

*Deciduous Ornamental Trees*, for Streets, Parks, Lawns, Cemeteries, &c.

## FLOWERING SHRUBS.

*Roses*—An immense collection old and new, covering over FIVE ACRES of land.
*Evergreen Trees*, including *half a million* of Norway Spruce of all sizes
*Weeping Trees*, everything desirable.
*Double Dahlias and Bulbous Roots.*
*Hedge Plants*, of all sorts.
*Stocks and Seedling* Plants for Nurserymen.
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Nurserymen and dealers dealt with on the most liberal terms, and Amateurs orders attended to with great care. Packing done in the most thorough and skilful manner and with the best material For full particulars we refer you to special advertisements and to the following Catalogues sent gratis to all who apply and enclose a stamp for each.

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ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

September, 1856.

## BULBOUS FLOWER ROOTS

WE have now on hand a large stock of choice Bulbs, and are receiving a new invoice from Holland, consisting of the finest

HYACINTHS, Double and Single.
TULIPS of all the Classes.
CROWN IMPERIALS
CROCUS, JONQUILS, NARCISSUS.
JAPAN and other LILLIES.
GLADIOLUS, a superb collection of new and all the older sorts, &c, &c, &c.

We are prepared to furnish all, at low rates, in large or small quantities, and solicit orders during the month of September, before the business season opens.

☞ Priced Catalogues forwarded *gratis*.

346 ELLWANGER & BARRY,
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September, 1856.

## EVERGREEN TREES
### AT LOW PRICES.

MESSRS. ELLWANGER & BARRY solicit the attention of Nurserymen, Planters and Dealers in Trees, to their immense stock of Evergreens by far the largest ever offered in the United States. They are prepared to furnish the following at the extremely low prices annexed.

☞ All frequently transplanted and, therefore, finely formed and well rooted.

| | per 1,00 | per 1 000 |
|---|---|---|
| Norway Spruce 5 feet | $60 00 | $500 00 |
| " " 4 " | 40 00 | 350 00 |
| " " 3 " | 25 00 | 225 00 |
| " " 2 " | 18 00 | 150 00 |
| " " 1½ " | 15 00 | 120 00 |
| " " 1 " | 10 00 | 70 00 |
| " 4 years Seedlings, 2 years transplanted | | 30 00 |
| " 1 year, from Seed bed | | 10 00 |
| Scotch Pine 12 inches | 10 00 | 80 00 |
| " " 9 " | 8 00 | 60 00 |
| Austrian Pine 10 to 12 inches | 12 00 | 90 00 |
| " " 6 to 9 " | 10 00 | 80 00 |
| Arbor Vitae Siberian 3 feet, beautiful plants | 40 00 | |
| " " " 2 " " " | 30 00 | |
| " " American, bushy, for hedges 2-2½ ft | 8 00 | 60 00 |
| " " " " " -1½ ft | 5 00 | 40 00 |
| " Golden, a beautiful tree, 1¼ to 2 feet, $9 per dozen. | | |

| | per doz. |
|---|---|
| Himalayan Spruce, (Abies Morinda,) 2 to 3 feet | $10 00 |
| Pinsapo Spruce, (A pinsapo,) fine broad plants, 10 in. high | 9 00 |
| Chili Pine, (Auracaria imbricata,) in pots, 12 to 18 inches | 9 00 |
| Deodar Cedar, 2 to 3 feet, beautiful plants | 9 00 |
| African or Silver Cedar, (C. Africana, or Argentea) beautiful 1½ to 2 feet, (more hardy than Deodar,) | 9 00 |
| Japan Cedar, (Cryptomeria) beautiful Seedlings in pots 3 feet | 10 00 |
| Funebral Cypress, (Cupressus Funebris,) in pots 1 foot | 5 00 |
| Twisted or Bhotan Cypress (C. Tortulosa,) in pots 1 foot | 4 00 |
| Yew English 1½ to 2 feet | 4 00 |
| " " 1 " | 3 00 |
| " " 6 inches | 2 00 |
| " Golden (Elegantissima 9 to 12 inches | 5 00 |
| " Irish or upright 1½ to 2 feet | 5 00 |
| " " 1 foot $3 per doz. $18 per 100 | |
| " " 6 inches $2 per doz $12 per 100 | |

For further details we refer to our wholesale Catalogue, sent gratis to all who apply and inclose a stamp. Address

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

## TO NURSERYMEN.
### STOCKS AND SEEDLING TREES.

WE solicit the attention of the Trade to the following articles which we are prepared to furnish this fall at the annexed low rates—all are exceedingly vigorous and well grown.

| | per 1,000 |
|---|---|
| Magnolia Acuminata 3 year Seedlings 2 feet | $50 00 |
| " " " " 1 " | 40 00 |
| Elm, American 2 year Seedlings | 15 00 |
| Horse Chestnut, 3 year " | 60 00 |
| " " 2 " " | 40 00 |
| Oak, White American 3 years | 20 00 |
| " Red " 3 " | 20 00 |
| Butter Nut, 3 year Seedlings 2 to 3 feet | 40 00 |
| Black Walnut, 3 yr " 2 to 3 " | 40 00 |
| Maple, Silver, 2 " " | 12 00 |
| " Scarlet 2 " " | 20 00 |
| " Sugar 1 " " | 6 00 |
| " " 1 to 2 feet | 30 00 |
| Larch, European 2 feet | 50 00 |
| Catalpa " 1 foot | 40 00 |
| Mahonia, or Ashberry, one of the finest Evergreen Shrubs, 2 year Seedlings | 50 00 |
| " 1 year Seedling | 20 00 |
| Plum Seedlings, 1 year, native | 10 00 |
| Pear " 1 " | 10 00 |
| Cherry, Mazzard 1 " | 4 00 |
| " Mahaleb, Strong | 15 00 |
| Manetti Rose Stocks, Strong | 40 00 |

For further particulars we beg to refer to our wholesale Catalogue, sent gratis to all who apply and inclose a stamp.

ELLWAGNER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

# FURNITURE WAREHOUSE,

## ON JEFFERSON AVENUE,

BELOW MICHIGAN EXCHANGE, DETROIT.

The Subscribers keep constantly on hand a large stock of

**ELEGANT FURNITURE,**

**Both Modern and Antique Styles, in Rosewood, Mahogany and Domestic Wood.**

Those wishing rich and fashionable Furniture, will always find a great variety to select from—equal in every respect to anything in the Eastern market. Being in constant receipt of Pattern Pieces from the

FASHIONABLE MAKERS IN NEW YORK

they are enabled to guarantee the most PERFECT SATISFACTION to their customers.

They also keep constantly on hand a large and complete assortment of Plain Furniture of Mahogany, Cherry and Walnut. In short, every article in the line of Household Furniture will be found in their Stock, including Chairs of every style and price, from four shillings to sixty dollars each. The subscribers now have on hand, and make to order, best

**HAIR MATTRESSES,**

Their customers can rely upon getting a genuine article.

CORN-HUSK MATTRESSES AND STRAW PALLIASES

constantly on hand. For the trade we keep constantly a large stock of Mahogany and Rosewood Veneer.

June '56, tf. STEVENS & ZUG.

## STEEL CULTIVATOR TEETH.

THE subscriber having purchased the exclusive right of manufacturing and vending **D. B. Rogers' Improved Steel Cultivator Teeth,** throughout the north half of the State of Indiana and all the State of Michigan, except the counties of Oakland, Lapeer, Genessee, Calhoun, Kalamazoo, and Hillsdale, now offers to supply his district with said Teeth, made of the best quality of spring steel, and in the latest improved shape.

These Teeth are too well known to need any certificates of their usefulness. They have taken the first premium at every State and County Fair wherever exhibited.

For sale in every principal city and village throughout the above named district.

The subscriber has also purchased the exclusive right of manufacturing and vending D. B. ROGERS' IMPROVEMENT IN THE WHEEL CULTIVATOR, throughout most of the States of Michigan and Indiana. At the Michigan State Fairs in 1853 and 1854, he exhibited one of these Machines, filled with steel teeth, and received the first premium and a diploma. This Machine, filled with Rogers' improved steel teeth, is considered by all farmers who have used them, to be the best Wheel Cultivator in use, not only for preparing summer fallows and putting in grain, but for the cultivation of corn when planted in drills.

No farmer will dispense with the use of the above named farming implements who has any knowledge of their usefulness.

All orders for Wheel Cultivators, or Cultivator Teeth, filled on short notice.

CAUTION.—All persons are prohibited the use of these Teeth and Machines, in said district, unless purchased of the subscriber or his duly authorized Agents. Address,

T. A. FLOWER,

April 1, 1856. PONTIAC, MICH.

SAMPLES of Australian and Tuscany Seed Wheat can be seen at our Store.

D. O. & W. S. PENFIELD,

3t 103 Woodward Avenue Detroit.

## *BUFFALO NURSERIES*

## and

# OAKLAND GARDENS,

## BUFFALO, N. Y.

THE Proprietors offer to the public a largely increased stock of Fruit Trees for the coming Autumn and Spring, which for thrift, size and beauty cannot be surpassed.

Our Pear Trees, particularly, are unusually fine, and we have more than 100 000 2 year old, with the same number of yearlings, which have made an extra growth.

Our stock is general, embracing also Apple, Apricot, Cherry, Peach, Plum and all the smaller fruits.

## *THE ORNAMENTAL DEPARTMENT*

is full, and includes every variety of hardy Evergreen and Deciduous Trees and Shrubs.

Of Roses, we have a very extensive collection, in which will be found every desirable class and variety.

Also a full stock of Green House and Bedding out Plants.

Our facilities for shipping to any point East or West are unequaled, and we invite all persons interested in our products to call and examine them.

MANLEY & MASON.

Buffalo, August 15, 1856. sept:3t

# TOLEDO NURSERIES.

THIS Establishment is prepared this fall to offer to the trade and customers generally the largest and best assortment of nursery stock they have ever had, consisting partly of

| | | | |
|---|---|---|---|
| 9,000 | Apple Trees, | extra fine, | 5 to 10 feet. |
| 20,000 | Dwarf and Standard Pears, | very fine, | 5 to 6 feet. |
| 25,000 | " " | Cherries " | 4 to 7 " |
| 4,000 | Plums, | | |
| 3,000 | Apricots, | | |
| 1,000 | Nectarines, | | |
| 20,000 | Peach Trees, | very fine growth. | |

Besides a quantity of the smaller fruits, such as currants, raspberries, &c., all of which are offered as low as they can be brought from the East, thus saving risk, time, losses and heavy transportation.

## EVERGREENS.

| | | | |
|---|---|---|---|
| Norways of | beautiful form, | 2 to 4 | feet. |
| Balsams, of | beautiful form, | 2 to 7 | feet. |
| Black Spruce, | " " | 2 to 4 | " |
| Hemlocks, | " " | 2 to 4 | " |
| Arborvitae, | " " | 2 to 4 | " |

The above Evergreens are as handsome as can be grown in the United States. Our assortment of Ornamental Trees, Shrubs, Roses, Dahlias, Phloxes, Green House Plants, &c., is very complete, comprising the best in the country.

We invite Nurserymen, Venders, Amateurs, Wholesale Dealers and others to give us a call and examine our stock, feeling assured it will recommend itself, and we promise they shall be accommodated at the lowest rates, or, they can correspond with us on the subject.

Our wholesale Catalogue, No. 4, is just out of press, and will be forwarded to every post-paid application enclosing a one cent stamp to pre-pay the postage.

A. FAHNESTOCK,

President Toledo Nursery Association.

Toledo, Ohio July 23d, 1856. sept:2t

# TO INVALIDS

## LABORING UNDER AFFECTIONS OF THE THROAT OR LUNGS.

## DR. CALVIN M. FITCH;

Formerly of 714 Broadway, N. Y., author of the Invalid's Guide, Consumptive's Manual, &c., having recently returned from Europe, would inform his patients at the west, and all interested in the announcement, that he will open on the 1st day of July,

## PERMANENT OFFICE

**At No. 459 Main Street, Buffalo, N. Y.**

where he may be consulted daily, (sabbath excepted) from nine to five, for THROAT AND PULMONARY DISEASES, more particularly CONSUMPTION, ASTHMA AND CHRONIC BRONCHITIS, in the treatment of which a judicious combination of Remedial measures, the employment of Mechanical and Constitutional Remedies, and of Medicinal and Sthnohropic Inhalations, give him a degree of success which can never attend a merely partial treatment of these Affections. Dr FITCH may also be consulted for all derangements of the system preceding, or giving rise to Pulmonary Diseases, particularly CATARRH, DYSPEPSIA, COSTIVENESS, AND FEMALE COMPLAINTS. Persons wishing to consult, but unable to visit Dr. FITCH, can do so by sending him a written statement of their case. A personal examination is however always preferable, as important symptoms are sometimes overlooked by the patient; and also as constant practice in consultation enables Dr. FITCH to determine the condition of the Lungs with great accuracy; thus of course enabling him more successfully to modify and adapt treatment to individual cases.

## CONSULTATIONS FREE.

Dr. C. M. FITCH has associated with himself in practice Dr. J. W. SYKES, for a long time his assistant, a gentleman in whose professional ability he has the highest confidence; and he furthermore wishes it distinctly understood that he has no longer any professional connection with Dr S. S. Fitch, but that communications will hereafter be addressed to

CALVIN M. FITCH, M. D.,

July, '56, 1year 459 Main street, Buffalo, N. Y.

## HICKOK'S CIDER MILL.

A N entire new, enlarged and improved machine.

Price $40. D. O. & W. S. PENFIELD.

Sept:3t

SEYMOUR'S GRAIN DRILLS and Broad Cast Sowers.

Sept:2t D. O. & W. S. PENFIELD.

## WM. WAGNER,

MANUFACTURER and dealer in Ready Made Clothing. His assortment will always be found complete, Also, an assortment of Cloths, Cassimeres, Vestings, and Gentlemen's Furnishing Goods. Custom Work and Cutting done to order. No. 11, Phœnix Block, Main street, Ann Arbor, Mich. jet

# JOYCE'S STAR MILL,

## For Corn and Cob, Hominy and Meal, and

## GENERAL STOCK FEED,

*An acknowledged and undoubted improvement upon all other Mills, for similar purposes,*

HITHERTO PRESENTED TO THE PUBLIC.

Its superior merits are generally as follows: *Simplicity of Construction, Economy of Power, Durability, Rapid Grinding, Facility of adjustment, Use by inexperienced persons and Cheapness.* Combining every good quality of the best Mills heretofore in use, WITH ESSENTIAL

**Improvements in the Crushing arrangements, which are so liable to break in all other Mills.**

We have three sizes, Nos. 2, 3, and 4, suited to the largest and least Stock Farmers. Prices moderate and corresponding with quantities of grinding. The opinion of the most experienced Stock Growers is, that sixty to seventy bushels of corn and cob feed, such as this Mill affords, is equal to 100 fed in the rough.

It is, therefore, plainly for the interest of every farmer to make this saving. Our Mills will pay first cost and labor of grinding many times over! One fact especially worthy attention is, that we find the

**READIEST AND LARGEST SALE OF THE STAR MILL**

where all other kinds have been sold. N. B.—A liberal discount to wholesale dealers.

LATHROP & JOYCE, *Cincinnati.*

sep'56-t2 F. F. PARKER, *Detroit, Agent for Michigan.*